e Kinima Dournal,

AND COMMERCIA

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES. [The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2195.-Vol. XLVII.

LONDON, SATURDAY, SEPTEMBER 15 1877.

SUPPLEMENT. PER ANNUM, BY FOST, 21 40.

A JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALS So. 1, FINCH LANE, CORNHILL, LONDON, E.C. ESTABLISHED 1842.

ted in all descriptions of MINING Stocks and Shares (British Freign, Consols, Banks, Bonds (Foreign and Colonial), Railways,
Freign, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water,

negociated in Stooks and Shares not having a general market

resis Colliery and Iron Shares, and in the principal Wagon and THE IN COLLEGE AND SHAPES, BUT IN SHE PRINCIPAL WAGON TARTERS COMPANIES OF the NORTH OF ENGLAND and SCOTLAND.
THE SE IN All the Principal COTTON SPINNING Shares.

paving now established CORRESPONDING AGENCIES in all Towns of the United Kingdom, is prepared to deal in the various

South Towns of the United Augusta Prices.

South Socks and Shares at close market prices.

Accourts Opened For The Formightly Settlement.

Accourts Opened For M., giving latest Quotations up to close of 100 Price List, issued at 5 P.M., giving latest Quotations up to close of 100 Price List, out the 1st of every month a List of all Securities cursults upon the Mining and Stock Exchanges, with latest prices, contain, rate of interest yielded at market price, &c.

MINES INSPECTED.

MINES INSPECTED.

Buttell CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTE	
DEALINGS in the following, or part; -	
Fig. 18st, £3. 5 Herodsfoot, £6. 50 Rookhope, 18s. 6	d.
25 Holmbush, 32s. 15 Richmond, £414	
Joddon, 7s. 3d. 20 Hultafall. 10 Roman Gravels,	£934.
10 T - 11 0-	
Okap, £3%. 50 Javail, 88. 25 San Fedro. 25 St. Harmon, £2.	ń.
Container, 7s. 3d. 20 Leadhills, 25 1/4. 25 Tankerville, 26 1/4	
Ombmartin, 5s. 6d. 25 Llanrwst, £21/4. 50 Van Consols, 10s	. 6d.
Deen Cons., £354. 25 Marke Valley, 17s. 6d 40 W. Tankerville,	78 6d
Farital, \$236. 25 New Quebrada, £3. 20 ditto (pref.),	2214.
Geredd and Merllyn. 50 North Laxey, 15s. 20 W. Wye Val., 23	
Gravinion, £3%. 20 Pateley Bridge, £2%. 10 West Chiverton,	
and the state of t	
Glistoy, 18s. 100 Pestarein, 4s. 15 Wheat Newton. 100 Parys Moun., 5s. 3d. 100 Yorke Peninsula	, 5s.

seed, 230%. 50 Port Phillip, 10a.

Sinus Bold For Forward Delivery (One, Two, on Three Months)
on Deposit of Twanty Fee Cent.

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Sinus en Invited for:

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Sinus (Sinus). 20 St. Patrick.

Sinus (Sinus)

ORIGN BONDS — ARGENTINE — EGYPTIAN—RUSSIAN,
TURKISH, SPANISH, PERU.
MILWAYS—HOME AND FOREIGN.
RELLE BUSINESS in the above, and Fortnightly Accounts opened on receipt

Chural cover.

**THE WAR.—The latest Telegrams from the SEAT OF WAR are received
accounted ay, and also the course of the Markets from EVERY CONTINENTAL

**AMES H CROFTS, 1, FINCH LANE, LONDON.

AWARIUM, HOTEL, INSURANCE, AND MISCELLANEOUS SHARES.

PROLIE BUSINESS in Brighton Aquarium and Royal (Westminster) and absorped and Tiverton Browery.

Demost and Tiverton Browery.

EMUES in Positive Assurance.

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"I Surples Tails of County in all Miscellangous Shares (of whatever decription) having LOYDON or COUNTRY MARKET VALUES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COTTON SPINNING SHARES .- BUSINESS in all OLDHAM

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ald be augmented.

JAMES H CHOFTS, 1, FINCH LANE, LONDON. in: City Bank, Lond on; Bouth Cornwall Bank, St. Austell. ESTABLISHED 1842.

WILLIAM H. BUMPUS, STOCK AND SHARE BROKER, 44, THREADNEEDLE STREET, LONDON, E.C. [Established 1867.]

MALSUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

sides, intending investors, and others who may be desirons of obtaining is and advice as to operations at the present time are requested to com-BR Sall, at prices annexed:—

Stordanger, Se. 50 East Caradon, Se. 50 Worth Tower

Argentine.	75 Exchequer, 6.	75 Parys Mount., 6s. 6d.
M Almada, Se.	10 East Van, £474.	100 Pestarena, 3s. 9d.
Mimbeton, 21s. 64.	15 Frontino, £2 19s. 64.	20 Patelev Bridge, 2234.
	20 Flagstaff, £2 8s. 9d.	60 Port Phillip, 9s. 6d.
6 Nickeye Creek, 12s.	50 Glenroy, 20s. 6d.	15 Roman Grav., £934.
	5 Great Laxey, 221%.	20 Richmond, £4 11s. 3d.
	30 Hultafall.	100 Sth. Aurora, es. Sd.
M Choutales, 7s. 6d.	100 I.X.L., 6s.	15 Tankerville, £6%.
M Colorado, 344.		40 Tecoma, 1ts, 6d.
li Deron Consols, £35%.	20 Kapanga, 23s. 6d.	6 Van, £3114.
in Den Pedro, 10s. 3d.	15 Leadhills, £534.	30 Van Consols, 11s.
	30 Last Chance, 21s.	25 W. Tankerville, 19s 6d
B Berhardt, £536.	40 Marke Valley, 18s.	40 West Assheton.
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him insected in Stock Exchange Securities and Miscellaneous shares of the securities and Miscellaneous shares of the securities and Miscellaneous shares of the security. A stock and Share List forwarded free on application. The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

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INVESTMENTS IN HOME MINING SHARES .-

neral depression in trade and the Eastern conflict has caused Metals and Minerals to fall to such prices as have not been known for very many years, especially in Iron, Coal, Tin, Lead, and Copper, and in consequence the value of shares in the various companies producing these minerals has been greatly affected. When the War is over, which may be sooner than many now expect, and the general state of trade revives, we shall see an important rebound in prices of all Metals and Minerals, which in turn will quickly react on all our leading mineral producing companies' shares. It, therefore, behove Shareholders who have invested in sound and legitimate undertakings to wait patiently for such a favourable change, and, if we may judge from passing events, there already appears to be a better feeling with respect to the future of trade in our several large manufacturing towns. There never was, perhaps, a more favourable opportunity for investments to be made as now in our leading Lead, Copper, and Tin Mines, judiciously selected at, in many cases, absurdly, by prices. These we said by prices that the New York of the Prices we said by prices. absurdly low prices. These we shall be pleased to point out to Investors on

EXTRACT FROM

MESSRS. PETER WATSON AND CO.'S
BRITISH AND FOREIGN MONTHLY MINING NEWS,
Stock and Share Investment Notes—Mines, Minerals, and Metal Markets
—Share List, &c. No. 789—Vol. XV. For September.

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D'Eresby, £20.
D'Eresby, £20.
D'Eresby, £20.
Sorbet Van, £4½.
Grogwinion, £3½.
Great Laxey, £21.
Glenroy, 17s. 6d.
Pandron, 12s. 6d.
Pandron, 12s. 6d.
Pandron, 12s. 6d.
Parys Mountain, 6s.
Perstruthal, 6s. 3d.
Penstruthal, 6s. 3d.
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Diresby, £20.
Sast Van, £4½.
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Fandora, 12s. 6d.
Farswontonin, £3¼.
Feast Laxey, £21.
Fortino, £3½.
For Eberhardt, 20%. Exchequer, 5s. Flagstaff, 22½. Frontino. I.X. L., 5s. 3d. Last Chance, 21s. 3d. N. Zealand Kap., 25s. Port Phillip, 9s. 6d. Richmond, 24½. Tecoma, 10s. 6d. Jombmartin, Goraedd a Glenroy, 17s. 6d. Glyn, 11s. Holmbush 31s. Leadhills, £8 8s. 9d. Ladywell, 19s. Llanrwst, 43s. Devonport and Tiverton Breerlyn, Llanidloes, Pennerle,

Almada, Oedar Creek, Onicago, Condes of Uniti, Hutatai, 10rke Felinsula.

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effected at an intermediate price:	
Buyers, Bellers,	Buyers, Sellers,
Argentine £ 2 £ 3	Minera
Assheton 1	North Laxey 14s. 16s.
Bodidris 1 1	New Quebrada 25% 274
Carn Brea 20 22	New Zealand Kapanga 1 14
Chontales 1/2 3/4	Parys Mountain 4s 5s.
Derwent 114 2	Pateley Bridge 2 21/
Devon Great Consols 31/4 31/4	Richmond 434 454
Dolcoath 22 24	Roman Gravels 914 934
Don Pedro 9s 11s.	Rookhope 17s 19s.
Eberhardt 51/2 53/2	San Pedro 14 14
East Caradon 5s 7s. 6d,	South Condurrow 714 734
East Van 4 41/4	Tankerville 61/2 7
Exchequer Gold 4s. 6d, 5s. 6d.	Tincroft 10 11
Flagstaff 234 234	Van 30 32
Glenroy17s.6d 20s.	Van Consols 7s.6d, 12s.6d
Glvn 7s. 6d12s. 6d.	West Chiverton 10 13
Gorsedd & Merllyn 51/2 6	West Pateley Bridge 1 11/4
Great Laxey 2014 21	West Godolphin 114 2
Javali 6s 8s.	West Tankerville % 1
Last Chance 36 1	West Wye Valley 21/8 31/4
Ladywell	W. Grenville 1% 1%
Lianrwst 2 21/4	Wheal Kitty 11/2 11/4
Leadhills 51/4 51/4	Wye Vailey 21/4 31/4
Marke Valley 1	
70	

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(Formerly Student at the Royal Bergakademie, Clausthal). [The Author reserves the right of reproduction.]

SECTION III. BLASTING MATERIALS.

NITROGLYCERINE COMPOUNDS .- One of the most useful discov NITROGLYCERINE COMPOUNDS.—One of the most useful discoveries in blasting materials, and which when the great dangers that have hitherto attended its use have been obviated may become more generally used is that which was made about 25 years ago by M. Sombrero, in the laboratory of Pelouze, at Paris—the preparation of nitroglycerine. Its great explosive power was from the first well known, but its preparation was attended with such great danger, and seemed to promise but little prospect of a useful technical application, as it could not be brought to explosion by direct ignition, as ordinary gunpowder, and it was left for Alfred Nobel, head of the firm of Nobel and Co., at Hamburg, to introduce it to the engineering world, and to commence its manufacture on the large scale. To him is due the honour of obviating and diminishing its dangers by transport, storage, and use, which were only learnt by time and experience, and although it cannot be said that he has succeeded in overcoming all these dangers in its use as nitroglycerine, still he

by transport, storage, and use, which were only learnt by time and experience, and although it cannot be said that he has succeeded in overcoming all these dangers in its use as nitroglycerine, still he has, in the form of dynamite, produced a blasting material which in certain mining and engineering operations is vastly more efficient than gunpowder, and which in these cases it has entirely superseded. In its liquid form as blasting oil nitroglycerine is now but seldom used. In Belgium, Sweden, Austria, and this country its use is forbidden. The great liability to explode by carriage, in the handling of barrels or flasks in which it has been kept by the least concussion, the danger on its solidification, which takes place at 4° centigrade, the spontaneous explosion, the injurious effects it exerts on the human system by mere touch or contact, which can very easily occur during its use underground, the danger from the misuse of vessels in which it has been kept, and the great care required in using it, and other influences have proved its unfitness for ordinary blasting purposes, and led to its abandonment; but not less to endeavours on the part of its introducer, Alfred Nobel, to remove these dangers, and who has succeeded in providing in the form of dynamite a powder which possesses almost equal effect as nitroglycerine, but without its dangers.

Glycerine itself is a colourless thick syrup liquid, with a very sweet taste, and is soluble in water and alcohol. Its suecific gravity is 1°28. It is obtained from most vegetable fats and oils. Ordinary beef suet is a glycerine in which the hydrogen has been replaced by stearing cidd. One of the methods of obtaining glycerine is to de-

is 1.28. It is obtained from most vegetable fats and cils. Ordinary beef sust is a glycerine in which the hydrogen has been replaced by stearic acid. One of the methods of obtaining glycerine is to decompose a fat into glycerine and stearic acid by means of high pressure steam. Glycerine is formed also in small quantities during the ferment ation of sugar; or by treating a fat with a caustic alkali, which decomposes the fat, forming soap, and liberating the glycerine. When glycerine is treated with dilute nitric acid it is is oxidized, forming glycerine acid. When, however, the nitric acid is in a concentrated form nitroglycerine is formed as a clear, colourless, and odourless oily fluid.

When glycerine is treated with dilute nitric acid it is is oxidized, forming glycerine acid. When, however, the nitric acid is in a concentrated form nitroglycerine is formed as a clear, colourless, and odourless oily fluid.

Nitroglycerine is insoluble in water and in alcohol; at ordinary temperatures it is but sparingly soluble; if, however, the temperature is raised to 50° centigrade it is more readily soluble. It is readily soluble in ether or methyl alcohol; is much heavier than water, in which it sinks, and remains at the bottom of any vessel containing both; its specific gravity being 1°6. It possesses a sweetish pungent aromatic taste. When kept for some time at a sufficiently low temperature—2° cent.—it crystallises in long nædles; at 4° cent. it assumes a thick stiff condition, which it relains until raised to 11° cent. According to Champion the following are the results of experiments made by himself on the behaviour of nitroglycerine at different temperatures:—At 185° cent, boiling takes place, with the disengagement of a yellow vapour; at 194° cent, slow volatilisation; at 200° cent, rapid volatilisation; at 217° to 228° cent, more or less rapid ignition; at 241° cent, feeble detonation; at 257° cent, wore or less rapid ignition; at 241° cent, somewhat weaker detonation; and at 287° cent, a still weaker detonation, accompanied with fame. According to ot ers, however, explosion takes place even at as low a temperature as 180° cent. When spread out in a thin layer and ignited it burns but partially, and only that part to which the heat or flame is applied, the ignition throughout the mass being propagated with great difficulty. A powerful shock or blow is sufficient to cause detonation, but the decomposition extends only to that portion directly subjected to the blow.

If a drop of nitroglycerine be allowed to fall on a totally hot iron plate the drop assumes the spheriodal form and volatilises. On a glowing red hot plate direct ignition takes place. It is prepared in the following manner:—Fuming con

time being constantly stirred, the nitrogen sinks to the bottom of the vessel, and the water is drawn off, after which it is again carefully washed with water, and the water again drawn off, when the nitroglycerine is ready for packing in flasks to be sent off for use. The great danger in the preparation has led to various modifications as to the quantity and strength of the nitric and sulphuric acids, and in the method of using it. At the stone quarry at Hamel-Bazire, near St. Lo, the nitroglycerine is only prepared the day before its use. In a 5-litre flask I kilogramme of strong concentrated nitric acid is mixed with 2 kilogrammes of strong concentrated sulphuric acid. To this mixture 450 grammes of glycerine are added gradually (not all at once, but in a few grammes at a time), with constant stirring, a constant cooling of the flask (either by allowing it to stand in a cold water bath, or under a current of cold water. This mixing occupies from a quarter to half an hour The fluid is then poured into a saucer of sandstone, with the addi-The fluid is then poured into a saucer of sandstone, with the addition of water to wash sinks to the bottom, which after pouring off of the sinks to the bottom, which after pouring our of the water is filled into flasks, which remain uncorked. In this manner from 0.067 to 0.10 gallons are obtained. One man suffices to prepare to $1\frac{1}{2}$ gallon daily. There are generally two persons employed in its preparation, who bring it them elves to the place of working, and charge the both back both. Exchange holes should have deep one fifth to one third bore hole. For bore holes about I yard deep, one fifth to one third of a litre of glycerine is used.

In order to lessen the danger during the preparation E. Kopp, in In order to lessen the danger during the preparation E. Aopp, in using it at the stone quarry near Zabern, in the Vosges, instead of mixing the concentrated nitric acid directly with the concentrated sulphuric acid (by which the nitric acid fumes, which are so liable to cause an explosion of the mixture, are disengaged), leads the nitric acid gas directly after its preparation into a Woolf's flask, containing the concentrated sulphuric acid, and so prepares an almost nonfuming mixture of nitric and sulphuric acids: 2 to 4 pints of this mixture are placed in a cast-iron or steel cylinder of about 1 gallon

Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath. Von Geoddes, Director of the Royal Bergakademic, Clausthal, The Harz th Germany.

capacity, which is immersed to more than half its height in a wooden vessel filled with cold water. The glycerine is slowly and gradually added, with constant stirring, care being taken to keep the cylinder cool. This part of the process occupies from 7 to 8 minutes. The water is decanted, and the nitroglycerine, which has sunk to the bottom, is then poured into a glass flask, which is closed at the top by an india rubber tube with burette pincers. After fully settling the nitroglycerine is run off into small flasks, without allowing the water also to follow, which is used again in the next preparation for washing the nitroglycerine. In this manner 4 to 6 lbs. of nitroglycerine can be prepared in the hour. It is, however, not suitable for transportation, and so must only be prepared on the spot, and directly before use.

In France, where dynamite first came to be used during the siege

In France, where dynamite first came to be used during the siege of Paris, the nitroglycerine for the manufacture of dymnamite is prepared in the following manner:—The nitric and sulphuric acids are mixed in an enamelled iron saucer, which was arranged on a hemispherical shaped bowl filled with water. The vessel containing the glycerine (about 1 litre), which was provided with a glass stopcock, was placed over the enameled saucer containing the mixed acids, and into which the glycerine was run off in a very fine stream. The temperature (to denote which an electric thermometer was used) was kept constantly below 20° centigrade. In each saucer the bulb of an air thermometer was dipped, the tube, which contained at its upper part mercury, served as an index. At one position under which, during the proper and regular course of proceeding the mercury column ought always to remain, the ends of two wires are inserted. Immediately the temperature rises above the normal condition the column of mercury touches the two wires, and closes the circuit of an electric current, which is immediately announced by the ringing of an electric bell placed in communication with the electric circuit. In order to lower the temperature the supply of glycerine is stopped, or fresh cold water is introduced into the bowl, or ice is added to the water. Care must be taken, however, not to reduce the temperature below 4° centification, which point the nitroglycerine becomes stiff. Should these means not suffice, the whole contents are emptied by a mechanical arrangement into the bowl, of water. In order to effect the mixing In France, where dynamite first came to be used during the siege means not suffice, the whole contents are emptied by a mechanical arrangement into the bowl of water. In order to effect the mixing a small paddle wheel, fixed horizontally and provided with wooden

paddles, is set in motion by clockwork, or by means of a small fan air is blown into the fluid, producing a rotatory motion.
When nitroglycerine is impure, or when it still contains some free acid (due to imperfect washing), decomposition occurs, even ree and due to imperent washing), decomposition occurs, even in enclosed vessels, with a disengagement of gas and formation of oxalic acid. In enclosed vessels the gas generated exerts a considerable pressure on the fluid, and in this condition it requires but a slight shock or vibration to cause an explosion. In order to lessen the danger from such a cause it is advisable in the transport or storing of nitroglycerine not to leave it in such vessels as casks, sheet-iron or tin cans, so that any shock from the outside is directly transferred to the contents which hesides have the disadvantage. transferred to the contents, which besides have the disadvantage that when the nitroglycerine is poured out a small portion still re-mains clinging to the sides, which by a later use of the vessel for mains clinging to the sides, which by a later use of the vessel for any other purpose might give occasion (as experience has already demonstrated) to a violent and destructive explosion. On this account Nobel places the nitroglycerine in glass flasks, surrounded with willow network, so that any shock is not readily transmitted to the contents of the flask; besides this, to lessen the danger as much as possible by conveyance and storage, he mixes the nitroglycerine with rectified methyl-alcohol, by which the nitroglycerine is rendered inexplosive. When the nitroglycerine is required for use the mixture is agitated with water, which takes the alcohol, allowing the nitroglycerine to sink to the bottom of the vessel, the former being decanted the nitroglycerine is obtained ready for use. By this proceeding, however, the cost is increased, and during the By this proceeding, however, the cost is increased, and during the washing and decanting of the methyl-alcohol there is always a loss of nitroglycerine; besides this, the alcohol being very volatile, evaporates rapidly, when the mixture again becomes explosive. Also, alcohol is inflammable, and a mixture with air explosive, so that the danger in this manner may be increased. Dr. Wurtz has proposed to prepare an emulsion of nitroglycerine with a solution of a posed to prepare an emulsion of nitroglycerine with a solution of a salt having the same specific gravity (such as sulphate of zinc, lime, or magnesia). When the nitroglycrine is required for use the mixture is treated with water, the nitroglycerine sinking to the bottom, and is obtained ready for use from decantation. Prof. Suly has proposed a remedy against the development of free acid, carefully to wash the nitroglycerine, and then to mix with it some substance in a powdered form, which will combine with any free acid, and at the same time exercise no chemical influence on the nitroglycerine.

ON SOME RECENT GOLD PSEUDOMORPHS.*

By T. A. READWIN, F.G.S., M.R.I.A., &c By T. A. Readwix, F.G.S., M.R.I.A., &c.

The four cabinet specimens of auriferous quartz forming the subject of this paper were found by me in Merionethshire. The first was found in 1868, and accounted of interest only on account of sundry specks of native electrum upon it (assaying about 80 Au. 20 Ag.) A cavity contains what appears to be a gold crystal, which when found was transparent and colourless, like the two quartz crystals accompanying it. I first noticed the change to a slight yellow colour in April, 1875. In the February following it had assumed its present brilliant colour and lustre, nearly. Since then its capacity has considerably increased, and within the last few days I have observed the beginnings of alteration in the largest of the adjacent observed the beginnings of alteration in the largest of the adjacent colourless crystals. The second specimen, also found in 1868, shows an extremely interesting gold crystal, which was first noticed in February, 1876. Since that time it has become much more dense an extremely interesting gold crystal, which was first noticed in February, 1876. Since that time it has become much more dense and brilliant. The third specimen, likewise found in 1868, showe (what I have elsewhere had the temerity to call) "Recent Electrum Growth," and in a cavity an interesting gold crystal pseudomorphous after quartz. The total change has taken place since February, 1876. The fourth specimen was found in 1863, and has the original rough label of that date now upon it. At that time the indexed unique projecting crystal appeared as I then hastily labelled it, as if "coloured by gold." To the unaided eye it seemed slightly opaque, but it was microscopically transparent and colourless. Before 1869 a marked change had taken place; it had become of a yellow colour, and quite opaque. In 1870 I introduced the speciment to the Geological Section at the Liverpool meeting of this Association, chiefly as a mineralogical fact of recent coloration of a quartz crystal. Seven years have since elapsed, and I believe it to be now a veritable gold crystal pseudomorphous after quartz, and deserving, therefore, of further consideration.

It is a generally received opinion that natural alteration of mi-

deserving, therefore, of further consideration.

It is a generally received opinion that natural alteration of minerals is always "an extremely slow process," and that long, very long, periods of time must necessarily elapse before such metamorphoses can be recognised by ordinary human sense. That natural inorganic processes do go on in the production of pseudomorphs very gradually, and for the most part very slowly, seems more than probable. Generally they are unobserved in their relation to time. morphic c texample within comparatively recent time limits, and await explanation from chemical science. In their consideration I think is fair to asssume—(1) that originally there was a kind of force of formation, which pushed the silica crystals outwards without leaving a corresponding cavity, and that afterwards another force (capillary attraction it might have been) pumped up into the crystals from the quartz matrix affuid holding gold in solution in some state of being, as yet not generally known, if known at all. In all these examples it is plain that quartz is the altered mineral; (2) that influence of temperature (if any) must have been inappreciable; for in specimen No. 20 one of the adjacent crystals is entirely unchanged, whilst the other appears under the microscope to be exuding metallic gold (of the nature of growth), as in the case of sundry other quartz crystals, opaque or otherwise, which were found by me in the same

The pseudomorphous crystals under notice are now evidently compound bodies of the nature of metallic ore; in fact, gold ore

" Written by Mr. READWIN for the recent meeting of the British Association of the Advancement of Science.

They appear to be alteration-pseudomorphs by the addition of attituent thought to occur less frequently than change by loss of stitution of substance. Obviously, no analyses of the crystal been made at any time, neither have any comparative difference specific gravity (if any) been ascertained. It seems interport to characterise the transition of one mineral into another curiosity, eccentricity, or freak of nature, for such transition by no means of rare occurrence in the earth's economical parently new phase of the subject demands due attention. It pears, therefore, an interesting question for chemists to determ What are the conditions necessary for the production of such parency has these?

ON SOME RECENT CHANGES OF GOLD SURFACES. By T. A. READWIN, F.G.S., M.R.I.A., &c.

The first specimen to which I would direct attention in this The first specimen to which I would direct attention in this argentiferous gold (the double-gold of some bullion dealers, an electrum, perhaps of Pliny, XXXIII. 23). It is a portion take assay from a bar of gold, extracted from Merionethshire que 1864, and contains about 20 per cent, of silver. At that date the usual appearance of comparation are silver. 1864, and contains about 20 per cent. of silver. At that data surface presented the usual appearance of comparative smooth A few months ago I observed that a marked change had a place at the surfaces of the nature of striation since May I specimen has been almost a constant companion at home and as an object of interest I have shown it to Maskelyne, the Johnstrup, Nordenskjold, Kjerulf, Waage, Esmark, Moria, others. Within the last month, however, the strike have be much more distinctly pronounced, and, therefore, I think of treater interest.

others. Within the last month, however, the strice have be much more distinctly pronounced, and, therefore, I think, of greater interest.

The second specimen is pure or red gold, parted at the same from another portion of the bulk from which 276 was taken, change is observable in these two broken pieces. The third is men is a portion of double-gold (electrum) extracted at the same as the second, in 1867, and also containing about 20 per cent of a with probably a trace of copper. One of the surfaces only age to have undergone any change, and that not at all analogous the changes on the second. The fourth is ecimen is pure gold a changes on the second. The fourth is ecimen is pure gold a change observable is an increased redness at the broken edges. Finding that such electrum-changes frequently occur at out temperatures under (what may be spoken of as) ordinary a tions; I have (wanting a better term) distinguished them as trum-Growths," as examples of which I submit specimens to and 276 came. The growths on both have attained nearly their sent dimensions since in my possession, and chiefly within the two or three years. I beg, however, to direct the Section's obstion to the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the changes which have recently taken place in the electrone three the change which have recently taken place in the electrone three the change which have recently taken place in the elect

TECHNICAL EDUCATION FOR MINERS. THE ROYAL SCHOOL OF MINES,

The importance of technical education to working miners The importance of technical education to working miners is so generally recognised that it is really surprising that so comparatively, avail themselves of the great facilities offer the acquirement of scientific knowledge upon reasonable ter the Royal School of Mines. It is true that the organisation adibranchiate cephalopod; and the definition of the hectocotylus, sepiostaire, and phragmocone, may only be of into thim who boasts that his genial good humour is indicated by peculiar curl of his nose," and are rather calculated to dithose who seek knowledge that can be turned to practical as in the mines: but it should be remembered that, although those who seek knowledge that can be turned to practical as in the mines; but it should be remembered that, although tions of this character appear in the Royal School of a examination papers, biology is only one of the fancy set taught, and need not be studied to entitle the student to the valuable distinction attaching to the Associateship of the tution. The curriculum leading to the Associateship beingsped designed to meet the requirements of practical miners and designed to meet the requirements of practical miners and lurgists is not a remarkably heavy one, yet ample for all purposes, embracing inorganic chemistry, mechanical dna physics, applied mechanics, and mineralogy during the fint second years, whilst in the third or final year the student select his subjects according to the particular profession to he intends to devote himself. In the third year there are taug the mining division, mining, assaying, and geology; to the nurgical division, metallurgy with laboratory practice; and the geological division, natural history with laboratory practical division, natural history with laboratory practical mode of instruction is by systematic courses of lectars written or oral examinations, by practical teaching in the lab tory and drawing office, and also under certain conditions by excursions. The courses of instruction are distributed over years, but those students who possess sufficient knowledge me

tory and drawing office, and also under certain conditions by excursions. The courses of instruction are distributed over years, but those students who possess sufficient knowledge mather think fit, pass through the whole in two years, by press themselves during the current year for examination in the sal allotted to the first and second years. Those desirous of obtained the distinction of Associate of the Royal School of Mines, have already acquired a knowledge of the subjects of the first years, may proceed at once to the courses of the third year passing the final class examinations in those subjects before professors of the Royal School of Mines, and paying a fee of or each examination. The aggregate fees for the three y lectures is 30%, in one sum on entrance, or two annual payment 20%, each. And persons who have taken either a first or see sectures is 30%. In one sum on entrance, or two annual payment 20% each. And persons who have taken either a first or see class certificate in the advanced stage in any subject in sciss the examinations held by the Science and Art Department, and show that they are bona fide science teachers, may attend the lectures gratuitously, provided that they be examined in at one subject, paying a fee for such examination of 1% per cours But the really intelligent student can materially reduce his peaces by working for exhibitions achelarships and prizes of which is the second of the peace of the second of

penses by working for exhibitions, scholarships, and prizes of a the school offers a large number. There are nine Royal school of Mines, Jermyn-street, of the value of the Royal School of Mines, Jermyn-street, of the value of the school of Mines, Jermyn-street, of the value of the school of Mines, Jermyn-street, of the value of the school of Mines, Jermyn-street, of the value of the school of Mines, Jermyn-street, of the value of the school of Mines, Jermyn-street, of the value of the school of the sc to the Koyal School of Mines, Jermyn-street, of the value of per annum, entitling the holders to free admission to all the tures and the chemical and metallurgical laboratories at the School of Mines, to be held from year to year for three year the condition that the holder attends the courses regularly dathose years, complies with all the rules laid down for his guids and passes the examinations required for the associateship of school. There are two Royal scholarships of 15t, each, which given to the students who stand highest on the list of these have passed their examinations for the first war, and a scholar have passed their examinations for the first year, and a scholar of 25% to that pupil who has gained the greatest number of more than the state of t in the examinations of the first two years. The Royal scholars will be granted to those students only who have obtained first places in the examinations of (their year, or in the examination at least two of the professors in the case of such students as the first two years in one. In addition to these there are Edward Forbes medal and a prize of books competed for annual to be awarded to the student who, having passed in the case in the natural history examination, shall have obtained greate-t total number of marks in that examination and in examination in Palæontology for the year; the De la Beche mawarded annually to the student who, having passed highest is first class in mining, stands high in the examinations of any of branch of science taught in the school, a bronze medal and a pof books, established in memory of the late director, Sir Rederick Marchison by Mr. Readwards the recent meeting of the British Asconting of the Briti

[&]quot;Written by Mr. READWIN for the recent_meeting of the British As or the Advancement of Science.

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ation, having passed in the first class in any one of the

taugut in the Royal School of Mines, and that has respectations are to discipline and that has a principal object of the Royal School of Mines, and that has principal object of the school thoroughly in the principles of those with the operations of the miner and metallurgist of the school thoroughly in the principles of those with the operations of the miner and in the officers, nothing but experience in the mine and in the officers, nothing but experience in the mine and in the soft object of the practical sort can confer the skill and tact requisite for the practical sort of those operations; but, on the other hand, it is only by that the sperience and improve upon the processes of his by that experience and improve upon the processes of his by that experience and improve upon the Bergakademie of but the sperience and improve upon the processes of his by that experience and improve upon the processes of his by that experience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the sperience and improve upon the processes of his with the processes of his processes and the sperience and improve upon the processes of his with the processes of his processes are the sperience and improve upon the processes of his processes are the sperience and improve upon the processes of his processes are the sperience and improve upon the processes of his processes are the sperience and improve upon the processes of his processes are the sperience and the principles mag and the Economister by whose instructions the British equivalent make the minister by whose institutions was founded, expressly year well known foreign institutions was founded, expressly year well known foreign should deliver annually, at a nominal make that the professors should deliver annually, at a nominal fee, a course of lectures to working men. It appears to be a course of right that an institution subsidised by the head considered right that an institution to the great national onsidered right that an institution subsidised by the solid contribute to a certain extent to the great national educating those who are prevented by circumstances from is about controlled by circumstances from the deducting those who are prevented by circumstances from the subject of electures were commenced in 1851, and the subject discussed by the classes to whom they were admissed great that in the following year the officers of the subject discussed by the classes to whom they were admissed great that in the following year the officers of the subject discussed professor engaging to give a course of six direction, each professor engaging to give a course of six me in alternate years—and thus providing the working men is alternate years—and thus providing the working men is arrange of twenty four, instead of six, lectures in each year, is a steady of the knowledge obtainable at any place of instructure best be judged of from the careful examination of the sylates of lectures given, and of the examination papers set to the is, we naturally turn to the portions of the Royal School of its, we naturally turn to the portions of the Royal School of six, we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we naturally turn to the portions of the Royal School of the six we have th is, we naturally turn to the portions of the Royal School of Cliedar giving information on those points, and find that more leaves nothing to be desired, whilst the latter are of a given tensure a reliable conclusion being arrived at as to the se which the students have made, and the rank to which they which the students have made, and the rank to which they suited. These, however, are matters upon which the guardian of intending student is well able to judge for himself; and is no doubt that the registrar, Mr. Trenham Reeks, will wilforward the Calendar to those desiring it. The school, the gain of which commences on Oct. 1, has an ample staff of each professors and abundance of teaching apparatus in the of laboratories, specimens, &c.; so that it will certainly not full teither of the Government or of the executive of the it has to whom these great facilities for learning are offered. if those to whom these great facilities for learning are offered not parsue their studies there.

WINING LAWS OF THE UNITED STATES. FIRST NOTICE.

many English capitalists are now interested in American mines glisof paramount importance that the laws in force with re-so to mining, and especially to titles to mines, in the United should be well understood, for it is probable that much of the pine in which English companies formed for working Ameri-nies have become involved may be attributed rather to im-laws of the State in which the busic size have become involved may be attributed father to imthe acquaintance with the laws of the State in which the busisearned on than to bad faith on the part of those who have
searned prominently known in connection with the particular
sease. Such information upon this subject as is required by
states and by Americans doing business with the mining cabats of this country have hitherto been obtainable only with
midfielty, as English writers have been insufficiently versed
this receive whilst American authors, writing averlayly by indumently, as angular writers have been insufficiently versed therein practice, whilst American authors, writing exclusively therein countrymen, have, of course, considered it unneces-togicattention to the requirements of English readers. There dia longer be any grounds for complaints of this character, impadmirable little treatise (with advance sheets of which we manadurable little treatise (with advance sneets of which we listed from the misen favoured by the author) has just been completed by Mr. L. Harris,* and will be ready for publication in a few days. It is the author is in an exceptionally favourable position—he has unfertaken to inside the author is in an exceptionally favourable position—he help professionally engaged in legal business relating to Americanies both in England and America, and is a member of the dath countries.

ly say of introduction Mr. Harris gives an interesting little his ral sketch of the laws, remarking that the mining laws of the lind States, as also those of the States and Territories, are based indistates, as also those of the States and Territories, are based unbecastome and rules of miners, which have existed in the ming districts from the time of the gold discoveries in California, in these discoveries being made in 1849 (the year following the mayof Hidalgo Guadaloupe, by which California, Arizona, New Koa, Fras, and a part of Colorado were ceded to the United May) large numbers of emigrants from Mexico, Peru, and the mints work the gold mines (in the Old World, poured into Calimato work the gold mines (in the older States mining property hald by the same tenure as other real estate, and, therefore, to also mining statutes of the United States do not apply, and in the miners' customs or rules are not found). These people within them their own mining customs, and thus sprang up that with them their own mining customs, and thus sprang up that bind Spanish law with English common law, which together the mining customs or miners' rules of the districts of the em States. American mining jurisprudence is indebted to the blocked some state of the blocked to the blocked to

these codes the discoverer of a mine was entitled to special mages—three claims in a newly discovered mine, and two claims

sale shouloned one, whilst all other localities were entitled to one

sale of the discoverer by all district laws as well as by the United States statutes of The quantity of surface ground allowed to one person ands (rans) in length along the course of the lode, but the way yards (varss) in length along the course of the lode, but the wind it is surface was made to vary with the dip of the vein, so that minimum width of 200 yards of surface ground was secured. In surface, however, was not required to be always along the sursofthe lode, but might be turned through any angle. The limid States law of 1866 itsed 200 ft. in length by 50 ft. in width albestrace as the size of one claim, without requiring that the made ground should directly overlie the lode along the entire lays of the claim. Unout recovering a claim the discoverer had was ground should directly overlie the lode along the entire who the claim. Upon discovering a claim the discoverer had green the second the population of Miners (the Stannary with the district), with a full description of hims 1f, and such a semption of the vein as to fully identify it, all which particulars the thereupon recorded, and posted at the church door for three was its Sandays. This notice was equivalent to the "Location master" of American law. Within 90 days from the registration this crifficate the discovery was required to girls a shart at least cate the discoverer was required to sink a shalt at least eter and 10 yards deep on the vein, and upon reaching

with stopped, under the Spanish law, but the proceeds were said among the claimants in such proportions as they were lad satisfied to. Bads of ore and deposits of gold and silver in before of these states and deposits of some law ragistered and de-

American law a placer claim may equal 160 acres. The administration of the Spanish codes was vested in the Royal Tribunal of Miners and the Deputation of Miners, which tribunals were composed mainly of practical miners, and the claimants were not allowed to employ lawyers, except in a few cases. In the United States, however, the administration of the mining laws, so far as relates to obtaining a patent to a claim from the United States Government, rests with the General Land Office. This office was organised by an Act of Congres in 1812, and reorganised in 1836 as a branch of the Interior Department of the Government or Home Office. But these Acts related only to the public non-mineral lands. In 1849, however, another Act was passed which conferred on the office exclusive jurisdiction over mining claims. From the Land Office an appeal lies to the Secretary of the Interior, whose decision is final. In practice the Land Office issues to all its officers instructions which set forth the interpretation of each new law, and the mode of carrying it out as required by the office. These instructions, although not judicial decisions, are a material part of the law, as the office has jurisdiction over all claims except contested ones. The decisions of the Government, and the conclusions arrived at by the land officers are analogous to judicial ones, and the Supreme Court has in a recent case decided that the judiciary will not interfere by mandamus, injunction, or otherwise with the officers of the land department in the execution of their duties while the matter is in their hands for decision.

The erroneous notion which has been carefully propagated in this

The erroneous notion which has been carefully propagated in this country—that a United States patent is indefeasible—is prominently noticed by Mr. Harris. He explains that the decision of the officers of the Land Office on the facts which must be the foundation their action, unaffected by fraud or mistake, is conclusive in the Courts (as has been proved in 1876). Their rulings may, however, be impeached in a collateral proceeding between private parties if fraud has been imposed upon their officers. Hence, he remarks, it is a mistake to suppose that the obtaining of a patent for a mining claim from the United States Government gives an absolute and indefensible title to the patents of a patent is pathing more them. defeasible title to the patentee: a patent is nothing more than a "quit claim" deed from the Government, which saves the patentee from any future interference from the Government, but it is not a "warranty" deed in any way; in short, a patent is little else than a certificate from the Government to the effect that the mine has a certificate from the Government to the effect that the mine has been discovered, developed, entered, and paid for by the patentee in accordance with the provisions of the law. Under the laws of most of the mining districts the miner has a right to follow his vein, with all its dips, angles, variations, and spurs, to any depth, and, therefore, when two veins meet in depth the older location is held to be the main lode, and the other is confiscated as a spur; in fact, no matter how close two perallul locations lie together, they are no matter how close two parallel locations lie together, they are presumed to be in different veins until they are proved to be the same. This state of things, as Prof. Raymond truly remarked in 1869, both invites and protracts litigation, which is seldom settled

same. This state of the state o foreign companies are too familiar. Under the law as it now stands the only means to avoid this risk of litigation is for anyone who acquires one claim at the same time to take up by purchase or otherwise several adjoining claims along the lode as well as on each side of it; or, if there be none such, to have the adjoining surface ground carefully explored, particularly beyond the side lines of his own claim for traces of other veins, and to locate and patent them, so as to keep possibly troublescape neighbours at a distance.

of his own claim for traces of other veins, and to locate and patent them, so as to keep possibly troublesome neighbours at a distance. If this course had been more frequently adopted in the past there would, he says, be fewer cases found in the law reports in which the titles to mines have been in dispute.

The subject having been rendered thoroughly comprehensible by the introductory sketch, of which the above is an outline, Mr. Harris proceeds to deal with the provisions of the mining code section by section, the words of the law being first given, and then a series of indicious observations elucidatory of them the positions referring to judicious observations elucidatory of them, the portions referring to aliens and abstracts of title to mining claims being particularly valuable, but notice of them must be deferred until next week, when the remaining parts of the book will be further considered. r the reader be professional or non-professional he will certainly l plenty in Mr. Harris's work to interest and instruct him, and as the diffusion of the knowledge obtainable from it is calculated to encourage British enterprise in the United States it is to be hoped it will be widely circulated.

DESERT OF ATACAMA-No. I.

ON THE RECENTLY DISCOVERED NITRATE DEPOSITS IN THAT PART OF THE NORTH OF CHILE WITHIN THIS DESERT. [Extracts translated from Notes of a Commissioner sent by the Chilian Government.]

GENERAL ASPECT .- It is a common opinion that the Desert of Atacama is an extensive plain shut in between two north and south ranges of hills or "Cordilleras." Such, however, is not the case. No doubt this desert is bounded on the west by a line of hills; that rising abruptly from the sea coast dip more gradually to the east, and on the west by the central Cordillera de los Andes, which also is es more abruptly on its western side than it falls on its eastern But this Desert of Atacama contains also numerous transvers mountain ranges, many of which reach from one to the other of the north and south ranges—i.e., across the desert, from the Cordillera of the Andes to the comparatively diminutive Cordillera of the coast. These transverse chains of hills, with a strike more or less from north-west to south-east, divide the desert into sundry hydrographic hollows or depressions. Between the 23rd and 27th parallels there exist four principal hollows or depressions of the class above alluded exist four principal nonlows or depressions of the class above attacks to, down which may still be traced the watercourses that appear at some former epoch to have drained this desert. The most northerly of these embraces all that part of the desert between the mountains Naguayan, Caracoles, and Atacama. It is bounded on the east by the Andean chain, from the volcano of Licancour to that of Lullaiyaco, while it is shut in on the south by a chain of hills that, starting from the Cordillera de Varas, passes the mountains of Cardones and Cobse on its way to the coast when it terminates in those of and Cobre on its way to the coast, where it terminates in those of Tara and Torgillo. This vast hollow, or dry lake, has its outlet at the port of Antofagasta, through a deep canyon or gully called La Negra. It comprises in Chilian territory those of its plains that Negra. It comprises in Chillan territory those or its plains that approach the 24th parallel, those of Palestina and of Aguas Blancas. The second enclosed hollow (proceeding south) is that of Cachivuyal, it commences south of the Cerro del Cobre and Cordillera de Varas. Its eastern boundary in the Andes contains the Vaquilla Mountains and the volcano of Dona Inez, from which springs the mountain chain that limits it to the south, passing the hill of Hornillo to that of Cachivuyal. This second depression has its hydro-Some disputed in the American Law or the Miners Same and the proportions as they were title of the soft in the proportions as they were title of the soft in the proportions as they were title of the soft in the proportions as they were attention to Board amount in the soft amount in the soft in the cervity solution to the south of the solution of t

smooth and undulating slopes. Numerous spurs or offsets from these east and west dividing chains, taking a north and south direction, subdivide the desert into lesser hollows, many of which are so completely enclosed as to induce the belief that they once formed extensive seas or lakes now dry. Such is the general formation of the desert. The plains are situated on a higher level according as they recede from the coast and approach the Cordillera of the Andes. At a distance of about 60 miles from the coast they begin to overtop the mountains of the north and south coast chain in conformity with the general and gradual elevation of the entire desert as it recedes from the coast of the Pacific towards the grand central chain of the Andes. The plain of Cachiyuyal, at about 37 miles distance from the coast, reaches a height of 4500 feet above the sea level, while the plain of Cachinal de la Sierra, distant from the coast about 60 miles, reaches to a height of 7450 feet; equal to a grade in the former case of 23 per 1000, and in the latter one of 22 7-10th per 1000, which would facilitate the construction of railroads, more especially as the surface is chiefly composed of alluvial deposits, so that the requisite embankments and cuttings would be comparatively inexpensive.

GROLOGY OF THE DESERT.—The geological structure of the desert of Atacama presents a very notable regularity; the different formations are arranged in parallel bands running approximately north and south, so that in whatever part the desert may be crossed from east to west, or vice versa, the same formations re-appear in the same order. Near the sea, and forming the western slope of the

east to west, or vice versa, the same formations re-appear same order. Near the sea, and forming the western slope cordillera of the coast are stratified rocks of the azoic and pale epochs as gneiss, grauwacke, &c., which rocks in highly inclined strata are frequently traversed by masses of plutonic rock, amongst which may be noted syenites and labradorites. These latter are found more especially near the sea, where they form many of the reefs and small islands of the coast. The stratified rocks wherever they came in contact with these plutonic masses have been much altered in their structures, and in their composition they frequently take the aspect of porphyritic rocks, so much so that at first sight they can with difficulty be recognised; as beyond their stratification they scarcely preserve any of their primitive characters. At some 8 or 9 miles from the coast the plutonic rocks begin to predominate, leaving on the west the platonic rocks begin to predominate, leaving on the west the narrow band occupied by the stratified formations, and thence extend to the base of the Andes, occupying almost entirely and by themselves alone all the central depressions. Neur their contact with the stratified formations the mountains formed by the relativistic research as invalid the contact. formed by the plutonic rocks present a singular aspect; they are crossed by numerous dark bands that maintain a parallelism with each other, which has here and there obtained for them the name of Cerros Vetados, or veined hills. Through these bands are nothing more than parts of the stratified formation that have been broken up by and enveloped in the plutonic more. more than parts of the stratified formation that have been broken up by and enveloped in the plutonic mass. The nature and the age of these plutonic rocks are not the same in all the extension of the desert, they follow each other in a certain order, the most modern ones being those situated most to the east, more especially on the eastern slope of the Cordillera de la Costa (coast chain of mountains), where the syenitic rocks appear forming the axis of this chain. These, however, become scarcer in the great central depression, giving place to the sugitic porphyries and the amygdaloidol rocks, which are in their turn replaced by the trachytes; of these latter the most modern are found in the higher parts of the Andean chain with pumics and volcanic lavas. This is the general disposition of the plutonic rocks, though some of them appear accidentally on the coast, as the syenite and the augitic porphyries.

Near the port of Chañaval de las Animas the syenites may be seen cutting through the stratified formation. At Taltal it is the augitic

cutting through the stratified formation. At Taltal it is the cutting through the stratified formation. At Taital it is the auguste porphyry that traversing the stratified ground has near their contact transformed it into amygdaloidal rock. The stratified formation reappears at the foot of the Audes, but this is not the same as that on the coast; that near the Andes belongs to a more modern epoch, and generally overlays, or rests on, the red sandstone. More to the east, and extending up part of the western slope, of the great Andean chain appear the calcareous formations of the Jurassic epoch. In all this region the stratified ground has experienced many up-heavals, and has been so contorted and broken up by the plutonic rocks that it only presents bands of greater or less width that extend in the direction of the transverse chains of hills that subdivide the extensive plains of the desert into hollows or basins, following which direction these bands approach, more or less, to the coast, as happens with the calcareous formations of the silver minerals of puntas and Encantada, and that of la Florida, still nearer to the oast. Such are the groupings of ancient formations in the desert of Atacama—near the coast stratified rocks of the palæozoic epoch, in the middle the plutonic rocks, on the western slope of the Andes the Jurassic formation, and on the highest part of this vast agglomeration of mountains volcanic formations, in the midst of which tower aloft the extinct volcanoes of Azufre, Dona Inez Chaco, and Lullaiyaco

What principally takes the attention on penetrating for the first time into this desert is the general nakedness and uniformity of the central region, on seeing all the plains and the hills covered with a thin stratum of sand or of small loose stones. When however, these central region, on seeing all the plains and the hills covered with a thin stratum of sand or of small loose stones. When, however, these small stones are examined with attention we perceive that they all preserve their angular form, and that, consequently, they cannot be alluvial, as in those other countries where the sand, in rounded grains, is washed down from the hills. Moreover, large rugged rocks of fantastic shapes, constantly rising up in the distance, often remind the traveller in the desert of the ruins of ancient cities, with their steeples, turrets, and pinnacles. These numerous mouldering hills and all these strange points and shapes of rock are the result of the destruction or decomposition of the plutonic rocks. Whilst the hills gradually moulder away the harder and weather-resisting parts remain, and obtrude in these rare and rugged forms, with their large points and sharp angles in such strong contrast with the generally smooth plains from which they seem to rise, and the rounded forms of the hills on which they rest. The principal caus of this destruction is due to repeated changes of temperature. The plutonic rocks, exposed during the day to the permanent action of the sun's rays through a dry atmosphere, are heated to a temperature of above 120° Fahr., and at night (unprotected by clouds) are rapidly cooled down, even in summer to 32° (Fahr.), and much lower in winter. The result of their consequent dilatations and contractions is to cause them to split in every direction, and finally to become friable and fail to pieces. These which convertes that it is the strange of the sum of the process. pidly cooled down, even in summer to 32° (Fahr.), and much lower in winter. The result of their consequent dilatations and contractions is to cause them to split in every direction, and finally to become friable and fall to pieces. Those which occupy the higher parts of a hill split in leaves, which open out like those of a book, whilst others are divided into concentric layers, and in the form of small scales fall over the sloping faces of the rocks that compose it down to the foot of the hill. Finally, in the fel-pathic rocks the action of the air intervenes; the felspar is converted into kaolin, and these scales are reduced to sand or powder. One only of the elements that constitute these rocks resists destruction—the silicates, in the form of quartz or chalcedony. In the amygdaloidal cates, in the form of quartz or chalcedony. In the amygdaloidal rocks (that always accompany the normaries and trackets) the cates, in the following distribution of the conjugate of the conjugate of the numerous small particles of quartz and chalcedony that they contain remain on the ground, and this is the origin of those that are

mines, for the period in queston, have yielded \$14,780,700. Another mine the Justice, has yielded \$1,420,000; and the Northern Belie \$910,200; while the Ontario, of Utah, has turned out \$756,000.

— Maing Record (New York).

THE COAL AND IRON INDUSTRIES OF SCOTLAND.

By RICHARD MEADE, Assistant Keeper of Mining Records, Museum of Practical Geology.

The carboniferous rocks of Scotland cross the country in a direction from south-west to north-east, stretching from sea to sea—from the Firth of Clyde on the east to the Firth of Forth on the west, and occupying the great synclinal hollow or trough along the valley, and parallel to the mountain chains of the Grampians and Lammermuirs, or between the slopes of the Grampians and the north flanks of the southern uplands. This great hollow or depression is filled with a coal field nearly 100 miles in length, extending from St. Andrews, near Greenock, and about 25 miles in breadth from Dalkeith to Ayr. The area thus described is not all productive of coal; in it occur several distinct fields or basins naturally divisible into six—the coal fields of the Clyde basin, the Mid-Lothian, Elinburgh, and Haddington coal fields; the Fifeshire, Clackmannan, Ayrshire, and Lamabago coal fields. The greater part of the workable coal series of the Scottish area is included in the carboniferous limestine group, for the English lower carboniferous rocks undergo a gradual physical change in their extension from south to north, or from the Midland Counties into Northumberland and South Berwickshire, and coal seams occur in and are worked in them near the base, associated with thick beds The carboniferous rocks of Scotland cross the country in a direction nto northumberiand and South Berwickshire, and coal seams occur in and are worked in them near the base, associated with thick beds of shale, the calcareous beds having greatly diminished. Below the equivalents of our carboniferous limestone are a series of white and grey sandstones, shales, cement stones, and thin coal seams. These equal the English lower limestone shales, and are termed "calciferous sandstones," which sometimes attain a thickness of 4000 ft.

The carboniferous series of Scotland, divisible into four groups, are thus classified by Prof. Geikie, in the Third Edition of Jukes' Manual of Geology:—

Manual of Geole	ogy:—	
	Divisions.	English equivalents
4.—Coal measures.	seams, and ironstone.	Middle and Lowe ooal measures.
3Millstone grit.	Moorstone rock, or Roslin sandstone and conglomerate.	Millstone grit and Yoredale series.
2 Carboniferous limestone series.	Sandstones, sometimes coarse shales, coals, black-band, and clay-band iron- stones, oil shales, and fossiliferous lime- stones.	Carboniferous or mountain lime- stone.
1.—Calciferous sandstone series.	White and grey sandstone shales, ce- ment stones, cyprid limestones and oc- casional coal seams.	

The aggregate thickness of the carboniferous series of the centre of

The aggregate thickness of the carboniferous series of the centre of Scotland gives a section of from 8000 ft. to 9000 ft., the greater part of which is regarded as of marine origin.

CLYDE BASIN COAL FIELD.—This important coal field, the largest in Great Britain, is traversed throughout its entire length by the Clyde, and includes the greatest part of Renfrewshire, Dumbartonshire, Stirlingshire, and nearly the whole of Lanarkshire. The coalbearing series are 4000 ft. thick, divided into upper, middle, and lower, and respectively 840 ft., 960 ft., and 2200 ft. thick, the base of the whole being the calciferous sandstone. The upper and lower series are the chief repositories of the coal seams. The upper series has ten seams of coal above 2 ft. thick, and three valuable bands of ironstone. The lower series contain three courses of ironstone and

series are the chief repositories of the coal seams. The upper series has ten seams of coal above 2 ft. thick, and three valuable bands of ironstone. The lower series contain three courses of ironstone and several valuable beds of coal west of Glasgow. The blackband ironstones occasionally pass into coal seams, the carbonaceous matter gradually replacing the argillaceous carbonate of iron.

MID-LOTHIAN, EDINBURGH, AND HADDINGTON COAL FIELD.—This triple coal field on the south-western side of the Firth of Forth, the waters of which separate it from the Fifeshire coal field, possesses much interest geographically and physically, and with the Fifeshire area are the most interesting of the Scotch coal fields. This triple coal field, described by Prof. Hull as a double trough, the deeper of which lies in Edinburghshire on the west, and the shallower on the east, in Haddington, has nearly 50 seams of coal of varying thickness, giving in the aggregate 122 ft. of coal. Celebrated amongst other coals here occur the 8-feet "great seam" and the "North Greens," 1500 ft. below the "great seam," yielding the well-known Parrot coal, having a thickness of 3 ft., and greatly esteemed as a coal for the manufacture of gas. Both the above-named seams occur in the carboniferous limestone in this area, which has in section a depth of 1600 ft., and in which appear 17 workable seams of coal, the coal measures proper above, with a thickness of 1220 ft., in which are found 11 seams of coal reposing on the millstone grit.

East Lothian Coal Field, with an area of 30 square miles and 10 seams of coal, is composed entirely of the carboniferous limestone series, which completely encircles the coal field on the east and south-east. The coals and ironstones of this area are the equivalents of the edge coals of the Mid-Lothian area. The calciferous sandstones underlie the limestone series, rich in its fauna and flora.

FIFERHER COAL FIELD, remarkable for its seams of coal, so valuable for iron smelting, gas making, and steam purposes, is situa

able for iron smelting, gas making, and steam purposes, is situated on the north side of the Firth of Forth; in it occur 29 seams of coal, with an aggregate thickness of 120 ft., some of which are of high quality, range through the measures, and enter the sea near Kirkcaldy. CLACKMANNAN COAL FIELD.—This field stretches along the northern and eastern banks of the River Forth, which is parates it from the great central coal field of the Clyde basin; in it occur ten coal seams of varying thickness giving an aggregate section of

oal seams of varying thickness, giving an aggregate section of

coal seams of varying thickness, giving an aggregate section of 40 feet of coal.

Ayrshire Coal Field.—This productive area is separated from the Ciyde basin by the Dunlop Hills and rocks of trap and Devonian. Much of the minerals have been destroyed through the agency of intrusive igneous masses and dykes of dolerite and basalt, which has interfered to a great extent with the prosecution of successful mining operations. About 35 ft. of coal and some measures of blackband ironstones occur in this coal field, chiefly in the lower part of the coal measures and the limestone series.

Lesmankago Coal Basin, a detatched area, 7½ miles from east to west and north to south, belonging to the carboniferous limestone series; it is said that three-fourths of this area is stored with coal of second-class quality, giving at Ponfrich an aggregate thickness of 53 ft., with a vertical depth of 1200 ft.

Other small coal areas occur at Canobie, in Dumfrieshire; at Campbelton, in Argyleshire; at Brora, in Sutherlandshire; and in the Isle of Skye, all of considerable importance in their respective districts. That of the Brora district appears to have been worked in the year 1598, when the first pit was opened by the then Countess of Sutherland. The coal occurring at Brora is of oolitic age, has a thickness of 3 ft., and is a valuable product in that northern district of Britain.

For many of the facts contained in the foregoing we are indebted.

For many of the facts contained in the foregoing we are indebted to the writings of Prof. Edward Hull, F.R.S., and Prof. Archibald

to the writings of Prof. Edward Hull, F.R.S., and Prof. Archibald Geikie, F.R.S., of the Goological Surveys of Ireland and Scotland. Production of the Coal Commission Report contain much interesting information bearing on the early history of coal mining in Scotland, of the charters granted in successive reigns from A.D. 1189, when the earliest record appears of a grant to work coal to the Abbey of Newbattle, by Sayer de Quinci, Earl of Winchester; statistical details are, however, wanting to show the early development of the coal industries of Scotland. The earliest reliable returns a valiable showing the number and production of the Collieries of the United Kingdom commenced with the year 1854; previously, the enquiries of the Mining R-cord Office were confined to the produce of our tin, copper, and lead mines, but this time the recommendations of a Commission who enquired into the working of the offices connected with the Museum of Practical Geology were carried out, and for the first time the produce of iron, coal, and other important minerals was ascertained. The writer—Mr. Robert Hunt, F.R.S.—being appointed in the previous part to wind the Mining of the Connected with the Museum of Practical Geology were carried out, and for the first time the produce of iron, coal, and other important minerals was ascertained. The writer—Mr. Robert Hunt, F.R.S.—being appointed in the previous part to a did in this work, which has since been regularly published in the "Mineral Statistics of the United Kingdom."

As previously stated, it is for the year 1854 that a careful enquire of the mining and the produce of our tin, copper, and lead mines, but Einstein and Statistics of the United Kingdom."

Buttlem (part of). 265,238 ... 256,655.32 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353 ... 266,665.353

Mines in Scotland, the earliest returns of production were arrived at; that gentleman ascertained that 397 collieries were in operation, the total output of coal amounting to 7,448,000 tons. In the year 1855 there were 403 collieries, the output amounting to 7,325,000 tons, showing a falling off, when compared with the preceding year, of

showing a falling off, when compared with the preceding year, of 123,000 tons.

The coal fields of Scotland are, for purposes of inspection, divided into an eastern and western division, the former under the inspection of Mr. Ralph Moore, and the latter under Mr. Wm. Alexander. The following are the districts under the inspection of the abovenamed gentlemen comprising coal areas in the shires named:

Eastern Division.

Lanarkshire (Nast division).

Fiteshire.

Clackmannanshire.

Haddingtonshire.

Edinburghshire.

Linlithgowshire.

Linlithgowshire.

Linlithgowshire.

Argyleshire.

Advisition, Ayrshire, Stirlingshire (West division), Dumbartonshire, Renfrewshire, Argyleshire, Dumfriesshire,

Following the returns regularly published in the Mineral Statistics the United Kingdom, the annexed abstract will show the number collieries and the output of coal in each inspection district in

e year	s na	mea	:-											
		Easte	ern !	Divi	don					W	este	rn D	ivis	don.
Year.	No.	of co	ollie	ries.		Coal-ton	8.	N	0. 0	col	lieri	ies.	(coal-tons.
1856 .		. 199	-00	420	***	-		***	***	206	***	***		-
1857 .		. 210		***	***	-				215		***		-
1858 .		. 214		***	***	-		***	***	203		***		-
		. 219		***	***	4,750,000	***	***		194	***		***	5,55 ,000
					***	5,150,000		***	***	199	**	***	***	5,750,000
1861 .		, 226		***	***	5,225,500			***	198		***		5,855,000
* 0.00			***		***	5,300,000	***	***		201	***	***		
1863 .		270	***			5,250,500		***	***	212	***			5,850,000
2004		. 274	***	***	***	6,250,000			***	223		***		6,150,000
1865 .		274		***		6,400,000				223		***		6,250,000
2000		263	***	***	***	6,350,000		***	***	218	***			6,275,000
1867 .		263	***	***	***	7,897,368	***	***	***	218		***		6,228,575
1868 .		230	***	***		8,456,084		***		203		***	***	6,253,875
1869 .		. 211	***	***	***	7,879,500	100	***	***	201		***	***	6,537,650
1870 .		. 207	***			8,595,238				204				6,339,315
1871 .		. 216		***		8,883,926				204	***	***		6,5 4,365
1872 .		. 252		***	***	9,046,814	***	***		201		***		6,336,795
1873 .		260	***	***	***	10,142,039	100	***		239	***	***		6,715,733
				***	***	10,182,326	***	***		234		***		6,606,335
1875 .				***		11,419,619		***	***	232	***	400		7,177,888
1876 .		. 367			***	11,667,648				313		***		6.997.964

It was not till the year 1859 that the production of each district was separately distinguished; in the three previous years the output of the collieries of Scotland amounted in the year 1856 to 7,500,000 tons, in the year 1857 to 8,211,473 tons, and in the year 1858 to 8,926,249 tons. From an examination of the above returns since the year 1859, a period of 15 years, it appears that the great increase has taken place in the collieries of the Eastern division amounting to upwards of 100 per cent., the increase in production of the collieries in the Western division of Scotland during the same period not exceeding 20 per cent. Summarising the foregoing returns, the total produce of the coal mines of Scotland will be found in the annexed statement, and side by side the total produce of the collieries of the tatement, and side by side the total produce of the collieries of the United Kingdom in each of the same years for comparison:—

	ear						Scotland.						Uı	nited Kingdom.
1	856				T	ons	7,500,000	***	***	***		T	ons	66,645,500
1	858		***	***		***	8,924,249	***	**	***	***			65,008,649
1	860		***	***	***	***	10,900,000	***	***	***		***	***	84,042,698
1	862				***		11,076,000		***	***	***	140		81,638,338
1	864			***	***	***	12,400,000		***	***	***	***	***	92,187,873
					***	***	12,625,000		***	***	***	***	***	101,630,544
1	868						14,709,959	**	***	***		***	***	103,141,157
1	870		***	***	***	***	14,934,553						***	
1	871			***	***	***		***		***	***	***	***	117,352,028
	872		***		***	***			***	***	***	***		123,497,316
			***	***	***	***	16, 57,772		***	***	***			127,016,747
	874	***			***	***	16,788,661		***		***	***		
	875						18,597,507			***		***	***	131,867,105
1	876	***	***	***	***	***	18,665,612	***	***	***	0.00	400		133,344,766

The reports of the Inspectors of Mines for the year 1876 show that the total number of persons of all ages employed in the mines in the eastern district of Scotland amounted to 40,832; of this number 33,623 were employed underground, and 7209 aboveground, while the total quantity of minerals raised of each variety will be seen in the following table, and side by side the returns of the two previous years for comparison:

		Quant	ties	of l	Min	erals Raise	d.				
Sastern distri	1875.				1874.						
CoalT	ons			T	ons			T	ons	10,182,226	
Fire clay	***	146,837			***	110,923		***	***	84,305	
Ironstone	***	836,878		***	460	803,665		***	***	701,073	
Oil shale	***	454,892			***	377,108	***		***	277,210	

Total ... 13,106,250 12,711,315 11,244,914

In the western district of Scotland the returns for the year 1876 show a total of 29,045 persons employed; of this number 25,974 were employed underground, and 5071 aboveground, the minerals raised amounting to the following quantities in 1876 and two previous years:—

Quantities of Minerals Raised.

Vestern dist	rict.		1876.	C# U	2 200.	mer	1875.			1874.	
Coal	T	ons			T	ons			T	ons	6,606,835
Fire-clay		***	210,104		***	***	200,337	***	800		153,281
Ironstone	100		1,710,484			***	1,642,002		***		1,418,698
Oil shale				***	***		46,314	***		***	84,700
Pyrites	***	***	907	***		***	_	***	***	***	-

Eastern District of Scotland.

District.	1876. Tons.		1875. Tons.		1874. Tons.
Lanark (part of)	7,665,117	*** ***	# 40F 000	*** ***	A 805 DOS
Stirling (part of	743,531	*** ***	764,000	*** ***	
Linlithgow	368,911	*** ***	406,374	*** ***	454,566
Edinburgh	715,803	*** ***	695,696	*** ***	567,998
Haddington	325,031	*** ***		*** ***	
Fife	1,688,410	*** ***	1,587,428	*** ***	1,390,678
Clackmannan Kinross Sutherland	260,845		248,092	***	197,774
W-4-1	11 000 010		11 410 410		10.100.010

Total ... 11,667,648 11,419,519 10,182,326

The returns of production in the western inspection district will be seen in the annexed abstract for each of the above-named years, showing a rapid development in the coal industries.

		D	istri	et of	Scotland.				
District.	1876. Tone.				1875. Tons.				1874. Tons.
Ayrshire	3,649,991	***	***	***	3,565,336	***	***	***	3,148,922
Argyle & Dumfries	97,139		***	***	92,711		***	***	100,749
Dumbarton	175,138			***	182,659		***	***	141,986
Lanark (part of)	2,653,317		***	***	2,928,170		***		2,766,355
Renfrewshire	157,141		***	***	152,159	***	***	***	181,678
Stirling (part of)	265,238	***	***	***	256,853		***	***	266,645

	Producti	on	of Co	nal i	n Beotland					
District.	1876. Tons.				1875. Tons.				1874. Tons.	
Lanarkshire	10,318,434	***	***		10,423,799		***	***	9,461,682	
Avrshire	3,649,991				3,565,336		***		3,148,922	
	1,688,410	***	***			248	***	***	1,390,678	
	1,008,769				1,020,854		***	***	948,664	
Edinburgshire	715,803				695,696	***		***	567,998	
Linlithgowshire .	369,911		000	***	406,374		***	***	454,566	
Haddingtonshire	225,031		200	***	232,399		***		193,964	
Dumbartonshire .		***		***	182,659		***	***	141,986	
Perth, Kinross Clackmannan, & Sutherlandshire	260,845	***	499	***	248,092	***	***	000	197,774	
Renfrewshire	157,141	***	***	***	152,159		***	***	181,678	
Argyle & Dumfrie	97,189	***	***	***	93,711	***	***		100,749	
Total .	18,665,612		***	***	18,597,507	100	***	<00	16,788,661	

duction or the value of coal in Scotland. It may, however, he rally stated that in the year 1876 the average price of coal in Jan was 7s. per ton receding to 6s. 8d. per ton in December, and wages being about 4s. 6d. per day, prices somewhat lea than ruling in the previous year.

Scotland in the year 1876 yielded 14 per cent, of the cell refrom the pits of the United Kingdom, and of this quantity not than 3½ millions of tons will have been consumed in the manufactories and the manufactories of the cell refrom the pits of the United Kingdom.

than 3½ millions of the manufacture of iron alone,
Mr. Ralph Moore, in his report of the eastern district of 3 m gives some interesting data of the number of cal mines in spection, and the capacity and production of collier es, with the capacity and production of collier es, pits, and can number of mines of all kinds, shafts, collieries, pits, and can working coal under the Coal Mines Regulation Act, 1872:

Mines of all kinds Number 36, 359
Shafts of all kinds 718 744
Collieries 314 744
Collieries 314 322
Coal pits 627 653
Coal pits 266 218

auction:-									. 01	r ith
1876				Tons.	1	187				
l firm raised	love	P	***	670,000	1 fem	raised	0.			
1 firm	***	***	***	410,000	1 firm	1 101960	OVE	T	***	63
3 firms	***		***	1.050.000	1 firm		***	***	***	44
2 firms	***	***	***	500,000	3 firm		***	***	***	34
1 firm	***	***	***	300,000	2 firm		***	***	101	9
5 firms		***		1,000,000	4 firm		***	***	***	50
7 firms	***		***	1,050,000	7 firm		***	***	***	
5 firms	***	***	***	600,000	14 fien		***	644	***	1,0
2 firms	***	***	***	1,760,000	18 firm		***	***	***	1,6
4 firms	***	***	***	1 360,000	23 firm		***	***		1,4
5 firms	***	***	***	8 000 000	144 firm		100	934	***	
he greates					A THE UPIL	18	***	. **	***	5,7

The greatest quantity of coal put out of a single shaft in this trict in 1876 was 136,000 tons, against 145,000 tons in the present while the greatest quantity of coal put out of a pair of in 1876 was 212,000 tons, compared with 210,000 tons in the

in 1876 was 212,000 tons, compared with 210,000 tons in the vious year.

While considering the coal industries of Scotland, and bern mind the depressed condition prevailing of late years, more eper since the year 1873, it will be interesting to observe the increast the exports to foreign countries, as shown by the Trade and Mr tion Returns, for the eight months of the present year, early and the previous years. The values of the respective quantities being down as 5,410,175*l*. in 1877, compared with 5,976,183*l*. in 1876, 6,373,195*l*. in the eight months of the year 1875, ending August. The coal, coke, cinders, and manufactured fuel exported wa ceived by the following States:

countries rece	iving	exp	port	B.	1875-tor	18.		1876-tons	1.		1877-ton
Russia	199				624,811	***	***	000 000		***	
Sweden ar	id No	orwi	IV	***	698,864		***	721,752		***	
Denmark	***	***			456,871	***	***				471,289
Germany	***		***	***	1,418,191	***		1,479,525			
Holland	***	***	***	***	286,142			308,154			1,333,457
France	***	***		***			***				254,50)
Spain and	Cane	wine	****					2,166,872			1,979,719
			****		438,133		***	508,496		***	601,192
	0.00		***	***			***				793,034
Turkey	199.0		***					181,131	***		
Egypt		***	***	***	302,234	***	***	337,123		***	23 ,382
Brazil	***	***	***		214,063		***				217,9:6
Malta		***		***	142,400		***				216,4 9
British In	dia		***	***	309,388			397.847			
Other cou	atries	3	000	***	1,818,094			2,029,426			1,841,726
_											-
Te	tal				9.277.298		1	10 735 480			20 525 260

Taking the above totals and values of fuel exported in the year

Taking the above totals and values of fuel exported in the year up to August, the average price per ton gives 10s. 3d., compared 11s. 2d. per ton and 14s. 9d. in the two previous years, orafil off in 1877 in price per ton of 4s. 6d. compared with 1875. In addition to the above exported quantities a further quawas shipped in the eight months ending August for the us steamers engaged in the foreign trade amounting to 2377.45 compared with 2,312,753 tons and 2,119,063 tons in the correspond periods of 1876 and 1875.

ECHOES FROM THE MINING MARKET.

There has been an improvement in the market for Cornish sl a very cheering feature in these quiet times. Early in the the tin standards rose 11., and although the advance itself is sit is the tendency of the movement that inspires hope, and increase. the tin standards rose II., and although the advance itself is as it is the tendency of the movement that inspires hope, and increased in the confidence. Dolcoath shares have been the most influenced by advance, as from about 19½ with a dull market the price has to 221, 231, with buyers largely predominating. If such a small rise is a naswered by an advance of over 31, per shars in Dolcoath, what may we when the standards are substantially higher? It may be well worth the wise areful investors to watch the Cornish market just now, as quotations have rally sunk to so low a level that advances of 100 per cent. on a brisk market he aimonat a matter of certainty. Without any wish to write in farour of mine at the expense of other properties possessing also fair chances of substances, we may, however, draw the attention of the investors to each anadvance within a short period may reasonably be looked for—Wheel Here is a property which bids fair to be a lasting success, which possesses fine course of tin in a lode which for appearance is almost unequalled, and to about three months time will possess ample stamping power. During the quarter the lode in the engine-shaft has yielded over 104 tons of this is alwing and stoping, and the agents report that they can now pay the wise of the mine, had as the price of tin is. With a fair advance in the value of the mine, had as the price of tin is. With a fair advance in the value of good profits could at once be made. At present the shares with the lot all are 3½ to 4, but with britter times the price would be nearer 10. If, then, is a reasonable chance of the tin market improving, the shares are will looking after. We commend these remarks to the attention of investor. A five-monthly meeting of East Chiverton shareholders will be held on the lode in the 4½ going towards West Chiverton, having become an imposing the state that the probable monthly loss will be about 125½, taking the cold is considerable reduction, the difference in agency alone amounting to nearly 1250. and t

THE WEEK.

Hies was continued; the Second Preference made up at 31, relapse of 32½, however, took place in Central Illinois. A channel Mine reports that five days run with two furnaces that the prospects are good. Flagstaff still dull, and dealt organized for and quoted at 9s to 11s.; Parys Mountain du not be ther than 3s. to 5s.; Rookhope, 17s. to 19s.; Lady

sing relayse of \$2.22. now that five days run with two furnaces well seliment Mine reports that five days run with two furnaces with site Mineman Mine reports that five days run with two furnaces and that the prospects are good. Plagstaff still dull, and dealt with the prospects are good. Plagstaff still dull, and dealt with the prospect of the property of the pro

FOREIGN MINES.

FOREIGN MINES.

The manager writes on Aug. 20: I visited the mine on the 14th, properts better than at any time since I commenced work. We not Baker incline 30 ft., principally in decomposed iron, with a small rebeate ore. In running this drift we extracted about 4 tons of ore, this drift we extracted about 4 tons of ore, this drift we struck a small cave, which contained about 6 tons of instance or assaying 70 per cent. lead, and 21 87-100 ozs of sliver per loss we extracted the same. We then commenced and ran a drift decreamed cave, about 8 ft., where we struck another cave, showing eat of which we have not determined yet, and we are now prospecting flatormaned cave, about 8 ft., where we struck another cave, showing eat of which we have not determined yet, and we are now prospecting latorman of the contry rook at this point is more regular and et we are daily looking for better developments. We also ran an exert at the 12 ft. as to 12 ft., as to 13 ft. south of discovery, foliabilitions, which resulted in striking a velo of 2 ft. of iron ore of no rines. Also ran 12 ft. cast of Barker incline, with no improvement, emain tunnel of about 20 ft., near the air shaft, delayed us three days gwelf in the mine. Also had to repair wagon road to enable trams set at the dump. In consequence of the above I have been somewhat the house of the consequence of the above I have been somewhat earl fee of the following cablegram was received: easa realised \$350."

LAND KAPANGA.—J. Thomas, July 28: I beg to give you the decreas realised \$450."

cert the dump. In consequence of the above I have been somewhat recent the dump. In consequence of the above I have been somewhat several the dump. In consequence of the above I have been somewhat the subject from the drift and cave about the 25th inst., and report realized from the drift and cave about the 25th inst., and report realized from the drift and cave about the 25th inst., and report realized from the drift and cave about the 25th inst., and report realized the subject of the subject o

morrow.
Toppu.—Western part of Great end south of third cross out the lode is yieaung as per last mill trial, 2 dwts. 7 grs. of sponge back, behind this end, yield 5 tons per fathom, or ton.—Intermediate Level, below Zero: Lode bel in end north is divided into two parts, yield hom, worth 12 dwts. per ton. Behind this end producing 4 tons per fathom, worth 15 dwts. per the stopes in bottom, behind the south end, and

spended for a time the stopes in bottom, which it is dwis, per fation, which is the south end, and end asink in the bottern of stopes, with a view to communicate to all, the end of which is being driven for the purpose of leaving an of the side of which is being driven for the purpose of leaving an of the side of the side of the same class ore.—No. 1 we sooth of which has been communicated to the intermediate level we be sorth of winzs has been communicated to the intermediate level set topes in back, south of second cross-cut, and have commenced a cet topes in back, south of second cross-cut, and have commenced a cost end of stopes where the lode will yield 9 tons per fathom, worth one. We resumed on the 1st, driving southward on this western level. To commence with, it is small, with stones of ore; but we thode: a the north end of ground under No. 2 level the lode can of ore per fathom; worth about 5 dwts, per ton. The stope south fielding a per fathom; worth about 5 dwts, per ton.—Marma Rosso fielding a per fathom; worth about 5 dwts, per ton.—Marma Rosso the driving suspended for the present.—Flat and New Lodes: Zero descent his No. 2 level the lode is very small, with a change in the cast couth in No. 2 level the lode is very small, with a change in the cast south of the conditions of the per fathom; worth about 12 dwts, per ton. Stope per fathom; by the conditions of produce atoms of ore, and is now letting it, are produced under No. 2, it were to be conditionally of the second cross cut under No. 2, it was a cross-cutting into the castern side, where we have strings read of the fourth cross-cut, is yielding 8 tons per fathom; worth about 12 dwts, per ton. To such of the fourth cross-cut, is yielding 8 tons per fathom; worth about 12 dwts, per ton. To such of the fourth cross-cut, is yielding 8 tons per fathom; worth about 12 dwts, per ton.

3ft. wide, and is of a promising appearance.—Lode and Branches East of New Lode: No. 2 Level: In the new ends north and south of the fourth cross ent on a flat lode nothing to value has as yet been met with: the end north is being continued. In the fourth cross cut eastward in this level the ground continues to be of a favourable nature. We have also, for a further trial, driven the third cross cut eastward, but have suspended it for the present, because we require those men for stoping.—No. 5 Level: The cross cut westward is being continued by two men.—Surface: Fair progress is being made on the tramway leading to thewire line terminus.

for stoping.—No. 8 Level: The cross-cut westward is being continued by two men.—Surface: Fair progress is being made on the tramway leading to thewire line terminus.

Pestarena District—Peschlera: In the 100 end south we have reached the footwall of the lode, which yields 1 ton to the fathom, worth as per mill trial 12 dwts. 22 grs. per ton. The 90 end north is yielding 1½ ton per fathom. In the stopes in back of the 90 south a picked mill trial gave 5 ozs. 5 dwts. 9 grs. per ton: the lode is yielding about 8 tons of ore per fathom. The stope in back of the 90 north is yielding 5 tons to the fathom, worth 1 oz. 3 dwts. 13 grs. to the ton. In the 90 north is yielding 5 tons to the fathom, worth 8 dwts. per ton. The stopes in the back of the 80 north are yielding 2½ tons per fathom, worth as per mill trial 10z. 18 dwts. 17 grs. per ton. In the end of this level the lode is small, with stones of ore. The 65 cross-cut westward advanced 1-25 metre in August, and is set again to three men. In the end south of this cross-cut, on No. 2 lode, the lode is looking promising, with stones of ore. In the 55 end northward this end is yielding 1½ ton per fathom; we expect a further improvement in this end shortly, because we are approaching the line of ore gone down in the bottom level of Acquavite Mice. No. 2 stopes, in back of this level, are yielding 3 tons per fathom, worth 8 dwts. 14 grs. per ton.—Acquavite Department: From the stopes in back of the 55 artiral of ore gave after the rate of 2 ozs. 13 dwts. 15 grs. per ton, and are yielding 2½ tons per fathom, and worth 15 dwts. 1 grs. per ton, and are yielding 2 tons per fathom, and worth 15 dwts. 1 grs. per ton, and are yielding 20, tons per fathom, and worth 15 dwts. 1 grs. per ton, and are yielding 20, tons per fathom, and worth 15 dwts. 1 grs. per ton.—Burface: Good progress nowls being made on the new mill building.

LINARES.—Sept. 5: Pozo Ancho: The lode in the 120, east of San Toma's en-

uilding.
LINARES.—Sept. 5: Pozo Ancho: The lode in the 120, east of San Toma's en
LINARES.—Sept. 5: with spot

of 2 ozs. 13 dwts. 13 grs. per ton, and are yielding 6 tons of ore per fathom. The stopes in the back of the 23 are yielding 24 tons per fathom, and worth 15 dwts. 1 gr. per ton. —Burdace: Good progress now is being made on the new mill building.

LINARES.—Sept. 5: Pozo Andro: The lode in the 120, east of San Toma's engine-shalt, is large and strong, and composed chiefly of calcarcous spar, with spote per fathom. In the same level west the lode is small and unproductive. The 120 cross-cut, south of Peill's shaft, is opening ground worth? 2 tons of ore per fathom. The 50, bett of Peill's shaft, is opening ground worth? 2 tons of ore per fathom. The 70 west of this shaft, is opening ground worth? 2 tons of ore per fathom. The 70 west of this shaft, is opening ground worth? 2 tons per fathom. The 150, east of Peill's, yields 1 ton of ore per fathom. The 150, east of Peill's, yields 1 ton of ore per fathom. The 150, east of Peill's, yields 1 ton of ore per fathom. The 150, east of Peill's, yields 1 ton of ore per fathom. The 150, east of Peill's, yields 1 ton of ore regime shaft, below the 120, a good month's work has been done. Warnes shaft, below the 100, is going down in a lode worth 2 tons per fathom. No. 22: winze, below the 90, is poor. The weighings of ore were kept up very regularly in the patt month, and the stopes are without any change of importance. The various works at surface are kept on uninterruptedly, and the machinery is in good work. In a corder. We estimated the raisings for September at 200 tons.

The 30 carlos shaft, a good length of ground has been done illite casier for driving, but still without ore. In the 30, west of this shaft, the lode is very open, and moderately easy for driving, and contains a little ore, but not father than the stope of the path month, but without ore. In the 30, west of this shaft, the lode is very open, and moderately easy for driving, and contains a little ore, but not father than the stope of the stope of the path month, and the stope of the stope of the stope o

winze, below the 10, slow progress is being made in consequence of an increase of waire; the lode is worth \(\frac{1}{2} \) ton per fathom. Laborde's winze, below the 89, is very hard, and spare for sinking; valued at \(\frac{1}{2} \) ton per fathom. In Christina's winze, below the 80, the lode has improved, and is now yielding also \(\frac{1}{2} \) ton of ore per fathom.

Los Salidos: The 130, west of Buenos Amigos shaft, continues unproductive. In the 120, west of this shaft, the ground is changing, and is evidently getting near the cross-course; valued at \(\frac{1}{2} \) ton per fathom. The 130, east of this shaft, is spit into several worthless branches. In the same level east the lode and ground have both improved; now worth \(\frac{1}{2} \) ton of ore per fathom. The 120, east of Cox's shaft, is opening a splendid run of ore ground; present value 2\(\frac{1}{2} \) tons per fathom. The lode in the 110, east of San Miguel's shaft, has not been regular of late; worth \(\frac{1}{2} \) ton per fathom. The 25, west of Swaffield's shaft, has fallen off in value during the past few days to \(\frac{1}{2} \) ton per fathom.

In the 55, west of Swaffield's shaft, the lode has become very small and poor, and the ground hard. The 65, west of Palgrave's shaft, is being driven in a southerly direction in search of the main part of the lode. The lode in the 33, east of Palgrave's, is small but irregular, and contains good spots of lead ore. The 65, in the same direction, is at present poor. Alvarez winze, below the 120, is communicated with the 130, affording good ventilation. Mimbre's winze, below the 110, is poor, and the ground hard and wet. The lode in Saliente's winze is compact and regular, and worth 1 ton of ore per fathom. The weekly samplings of ore were kepi up with great regularity during the past month, and the stopes are now without alteration to notice. The machinery throughout the mine is working well. We estimate the raisings for September at 450 tons.

LANESTOSA.—Aug. 31; Matienze: Angel's winze valinal Mine: In the 30 fm. level, north of the great lode west of the incline: on a north and south love, the lode is from 8 in. to 1 ft. wide, compose mundir, with faces of lead and stones of blende, but not in quantities to value.

[For remainder of Foreign Mines, see to-day's Supplement.]

PENSTRUTHAL CONSOLS .- In accordance with the feeling expresend at the late meeting as to the necessity of reducing the costs of this mine (and more especially the agency) consistently with the proper carrying on of the works and also for the purpose of examining thoroughly the property, both above and underground, two
of the directors, accompanied by Mr. Ashmead, the new secretary,
visited the mine during the past month, and entered into a very
full investigation of its present state and prospects. Previous to this visit the directors had given formal notice to the several agents this visit the directors had given formal notes to the several agents that their services would cease and determine at one month from the following pay-day, and had by advertisement invited application for an agent to take the sole charge of the mine, in case it should be necessary to change the agents who had hitherto conducted the works. To this advertisement there had been numerous answers, but after an examination of the work done and being done at the

mine, and also after long and earnest consultation with Capt. Teague, mine, and also after long and earnest consultation with Capt. Teague, it was considered better, for the interest of the company, to reduce and modify the present agency in preference to appointing any new or untried men. The directors have so arranged that in future the agency will amount to but 15t. 4s. per month, instead of 41t. 10s. as hitherto. Capt. Teague has kindly offered to give the com; any the benefit of his supervision free of any charge until the mine shall be in a profitable state, an offer which the directors accepted, and which the shareholders they feel confident will appreciate. Capt. Polkinghorne, the former senior captain, will be the agent, and a second agent's services will be dispensed with.

A CALIFORNIA MINE.

This is the California mine dividend day. During the month its

This is the California mine dividend day. During the month its shipments have been over 1,600,000, so there is no doubt about the dividend. We wonder if one in a thousand who reads the brief announcement every month on a certain day, that a certain mine has paid a dividend of \$1,030,000, has the slightest idea of what is necessary to be done to make such an announcement possible?

Everyone who ever owed a note in a bank knows that 30 days is a very brief period of time. To cause a mine to produce \$50,000 in a single day is a tremendous feat; to continue this product daily through weeks and months, almost without variation, is a marvel. It takes for thought, endurance, judgment, and nice calculation such as very few men possess in the world. The ore from which this mighty yield is extracted lies hid away almost a third of a mile below the earth's surface. It lies where consuming heat and baffling water join their forces to drive away the invading miner. While the one is being hoisted, every month 1,230,000 ft. of lumber has to be lowered and put in position, to keep safe the weakening cause 1 by the mighty excavations. While one level is being worked another has to be explored, for a drain of 500 tons of o.e per day would soon level a mountain down.

would so in level a mountain down.

Then, the Comst ick is an uneasy fisture. In a single week, sometimes, the swell of the ground shivers into sp'inters 14 in. square timbers. Shafts and drifts, and inclines and tracks, have to be times, the swell of the ground shivers into spiinters 14 in square timbers. Shafts and drifts, and incines and tracks, have to be watched incessantly, for a mine, like a glacier, seem-ever to be working. This is all below gound. Above the surface is a world of machinery, always to be kept in order—steam-engines, air-engines, cables, cages, air-pipes, pumps, and all the multiplied devices intended to expediate the work and besen the dangers of mining; 500 men have to be lowered into and hoisted from the depths daily; 300 cords of wood have to be provided daily for fuel; and there must be no delays, no serious accidents. The needed repairs must be anticipated and provided for; the accidents must be anticipated and guarded against; the explorations must be carried on months in advance; the supplies must never fail. A vast space of forest land 30 miles away has to be denuled of its timber yearly to fill the insatiate maw of this one mine. It requires 15,000,000 ft, of timber and 100,000 cords of wood annually to supply the mine and to furnish fuel to hoist and reduce the ores.

How many can appreciate the ability necessary to carry on this work without any mistakes? Many a man of mind sufficient to accomplish the feat would fail through sheer lack of physical strength. The work means being up at five o'clock in the morning; means two or three daily journeys into the depths, and when anything unsual happens it means atanting quard night and day like

means two or three daily journeys into the depths, and when anything unusual happens, it means standing guard night and day, like a ship's captain in a storm, until the trouble is over. It means a mind large enough to take in the immense work going on a glance, mind large enough to take in the immense work going on a giance, yet careful enough to include its smallest details, and exact enough to anticipate the wants of the enterprise months in advance. For ten months the Colifornia Mice has monthly given up this tremendous yield. For two years monthly the Consolidated Virginia never failed, and would not have failed for two years to come had not an unexpected flow of water delayed unavoidably the work. And yet, instead of honest fail heing given that the true men who had done what the managers of the mine have done, could make it all right so soon as human persistence would make the work right the work so soon as human persistence would make the work right, the work of the past seemed all at once to be forgotton, and all the filthy renom of a purchasable press was uncorked in abuse and virtupera-tion. It has probably been so since the world commenced, and will be so to the end. The possession of fame or wealth, no matter how honestly acquired, seems ever to awake the envy and to cause to wag the four tongues of the world. Our miners are no exception, but their work remains, and is the best possible answer to their slanderers.

Profitable Mining.—The clean-up of the Consolidated Virginia Mine for the last fiscal month was \$1,535,323-97. The fiscal month was shorter than the last, the California mill having been run but 29 days, and the Bacon and French but 28 days. The clean-up of the California Mine was \$1,399,331-74. This makes a total for the bonanza for the month of \$2,934,660-73. These figures show a production from these of nearly \$3,000,000 for a single month. We have been so accustomed for the past year or two to see in print similar results from these two famous mines that we do not appreciate them sufficiently. A few years ago we would have considered \$3,000,000 a very large amount for a first-class mine to have produced in a year; even now it is more than most prosperous districts turn out year; even now it is more than most prosperous districts turn out from all the mines combined. The sum is a very large one, and if it were scattered about more in the community than it is, would be it were scattered about more in the community than it is, would be truly sufficient to cuse better times. Even as it is, it does considerable good in many ways: \$3,000,000 a month from two mines for many consecutive months is a better showing than can be made in any mining country in the world, and is probably more than was ever realised from any mines in the same period of time. Some of the old South American and Mexican mines yielded larger sums in the aggregate than the Comstock bonanza, but it took years and years to accomplish. Now, with improved appliances and machinery, skilled workmen and every convenience, the ore is rapidly extracted and quickly made to yield its precious contents. The precious metal is sent down for refining as fast as collected, and is then coined gold and silver at the mint as expelitiously as possible. The whole operation is carried on with a rapidity and system unknown then coined gold and silver at the mint as expelitiously as possible. The whole operation is carried on with a rapidity and system unknown and impracticable until recently. The mills are the finest in the world, and all the machinery is unexcelled, so that every possible convenience for good and rapid work is at hand. Of course such results could not be attained, no matter how fine the machinery, unless the ore were first-class. In the last run the California mill worked exclusively its rich ore from the 1650 ft, level, averaging 330 tons per day. This ore works is well as any on the lode. The other day from a run of 24 hours 9000 lbs, of amalgam were taken out, which shows the richness of the ore and the rapidity with which it is worked. Of course bonanzas of this character are scarce, and it was only with great expense and continued prospecting that and it was only with great expense and continued prospecting that this ore was found. It was blind work, too, from the nature of the undertaking, for no man could say that sinking the shaft the proprietors were not also sinking their money, as has too frequently happened. As soon as the bonanza was struck, however, it amply repaid all trial and expense, and has sent forth since its discovery a stream of gold and silver such as was never dreamed of before.

— Mining and Scientific Press (U.S.)

Wheal Kitty (St. Agnes.)—At the meeting on Thursday, the accounts charging four months' costs against three months' returns showed an adverse balance of St. The Chairman (Capt. Teague) showed an adverse balance of St. The Chairman (Capt. Teague) remarked that if they closed their accounts and stopped the mine at once their liabilities would be only 2000t. The 142 will soon be under the run of tin ground gone down in the 130, when they had no doubt it would improve in value. It appeared that 111, dues had, during the past three months, been paid to the lords (the Duke of Buckingham, Mr. Davey, and St John St. Autyn), whilt the adventurers had lost money, and it was determined to apply for a remission during pleasure, 1-22nd which is now paid being very high according to present rates. The Chairman stated, in acknowledging a vote of thanks, that they had paid 39,000. or 40,000. in dividends, and the suspension of them during the past two years was not through any falling off in the mins. With an improved price of fin they would soon resume dividends; but it appeared to him that they were doomed to go on as they were a little longer—he hoped, however, without calls, if tin went no lower. He congratuated them that, in spite of the adverse circumstances, the mine was self-supporting.

CAPTAIN ABSALOM FRANCIS

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the Mining Journal, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina in reply to one which appeared in the Journal on the Clementina Mine.

The great extension of mining business, the difficulty so often complained of y country shareholders in getting accurate and disinterested information as to be state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make heir Circular now published in the Mining Journal more extensively known, and

their Circular now punished in the Anima Johnson and the Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Becords of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annuls of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines, mutally, and of the property of message and mining.

with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS. MINEOWNERS, STOCK AND SHARE DEALERS, &c., 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

The PESTARENA MINES are making 3000l. to 4000l, a year profit, and at the end of the present year, when eight additional mills will go to work, may make more than double that profit. But the directors want 10,000l, to clear off a debt and prevent the total loss of the mine to the shareholders. The directors have subscribed 4175l.—other shareholders 3000l.—yet from the urgent appeals made there seems as much difficulty in getting the remaining 2825l, without which the property will be lost, as there is getting money at Parys Mountain. Some years ago the Fortuna Mine was in the same difficulty, and had not the directors succeeded in raising 15,000l, the mine would have been lost. But the shareholders of those days came forward and found the money, and since then the mine has paid off the loan, and also 150,000l, in dividends. We cannot yet believe that either Pestarena or Parys shareholders will allow their properties to pass from them when so little is required to keep them going, and with such prospects of success.

CLEMENTINA.—The reservoir which has occupied some months

CLEMENTINA.—The reservoir which has occupied some months is now complete, and we hope there will not be any further stoppege for want of water for the wheel. Sinking is again in progress, and another level will soon be commenced in the lead ground.

ROCKHOPE.—If our correspondent will refer back he will find

that we have on several occasions explained the points of this mine.

The shares are 1l. 10s., fully paid up, and are at a discount, when in ordinary times the prospects would justify a good premium. We are

ordinary times the prospects would justify a good premium. We are not in any connected with the management, and cannot, therefore, answer the other question.

MORFA DU.—We reply—1. All the machinery for raising the bluestone or zinc has been erected, and immediate returns can be made, though not to any great extent until another level is reached, at a cost of about 7001.—2. A year or so ago 150 tons were raised as a sample and sent to Belgium; this resulted in orders, exceeding, we believe, 3000 tons a-year, and if raised and supplied at the prices named it would yield a profit of about 25 per cent. on the whole capital of 11,250°, which will be subscribed for as required.—3. These orders could not be executed by Parys Mountain, as all their funds were employed in the copper mine, and in driving the 3. These orders could not be executed by Parys Mountain, as all their funds were employed in the copper mine, and in driving the 90 cross-cut south. — 4. It is the general opinion that a large mass of metal, probably copper, is underlying this blue-tone. Also, that large deposits will be found under the great white rock. We know of no other reason, however, for supposing this except that the great opencast, which yielded 5,000.000l. sterling, had a similar rock over it.—5. In regard to the capital required at Parys, Capt. Mitchell, who ought to be the best judge, considers 5000l. ample. A rise in copper to its old price would put the mine into a paying state.—6. The precipitate pits are cleared up quarterly, and yield about 400l. each time. The ochre which is formed after the water leaves the iron is cleared up once in a year or two, but requires about 4000, each time. The other which is formed after the water leaves the iron is cleared up once in a year or two, but requires time to sell to advantage; that on mine and now fit for sale is valued at 11701. The price is about 21, per ton. There is in the mine a large supply also of native other, for which a good sale may be obtained with a small outlay.

PARYS MOUNTAIN.—Since our remarks in reply to Morfa Du were written we understand the directors of Parys Mountain have called a special meeting to take into consideration the winding up of the

written we understand the directors of Parys Mountain have called a special meeting to take into consideration the winding up of the conpany, owing to the fact that the shareholders have not applied for Morfa Du to the extent expected. Had the shareholders come forward more generally some of the directors would have taken 500 shares each, and the agent of the mine an extra hundred. Their being deaf to the appeal made to them leaves the directors no alternative but to wind up, unless at the last moment those who have been holding back waiting to see if the thing would succeed without them should apply for the proportion they were expected to take—one Morfa Du for two Parys. It will still be open to those not in Parys to apply for any shares in Morfa Du, and shall be glad to receive any names for them, and to show our confidence we will s for the n, and to show our confidence we will head the list by taking 500 shares,

BATURDAY, SEPT. 8.—Market very quiet. Van, 30 to 32½; Great Laxey, 20 to 21; Glenroy, ½ to 1; Leadhills, 5½ to 5½; Roman Gravels, 9½ to 9½; West Tolgus, 72½ to 77½; Rook-hope, 17s. 6d. to 20s.; Tankerville, 6½ to 6½; North Laxey, 14s. to 16s., Parys Mountain, 5s. to 7s. 6d.
MONIAY, SEPT. 10.—Market continues depressed, and quotations are merely nominal. Carn Brea, 19 to 21; Devon Great Consols, 3½ to 3½; Delconth, 21 to 23; East Van, 4½ to 4½; Glenroy, ½ to 1; Great Laxey, 20 to 21; Ludywell, ½ to 1: Leadhills, 5½ to 5½; North Laxey, 14s. to 16s.: Parys M untain, 5s. to 1s. 5s. do, 18 homan Gravels, 9½ to 9½; Rookhope Lead, ½ to 1; South Condurrow, 7½ to 7½; Tankerville, 6½ to 6½; Tincroft, 9 to 11: Van 30 to 2012. We of Niverton, 11 to 13s. West 21. io 7s. 6d.; Roman Gravels, 9½ to 9½; Rooßhope Lead, % to 1: South Candarrow, 7½ to 7½; Tankerville, 6½ to 6½; Tincroft, 9 to 11: Van, 30 to 33½; West Ofliverton, 11 to 13: West Tolgue, 72½ to 77½; Wheal Grenville, 30s. to 35s.; Eberhardt, 5½ to 5½; Richmond, 4½ to 4½.

TU-SDAY, SEPT. 11.—The market again quiet, and prices about the same as

TV:BDAT, SEPT. 11.—The market again quiet, and prices about the same as yesterday.

WEDNEDAT, SEPT. 12.—The shares more in demand, and close firm. The following are the quotations for the day:—Carn Bres, 21 to 23; Devon Great Consols, 3½ to 3½; Dolocuth, 22 to 24; East Van, 4½ to 4½; Glenroy Lead, ½ to 1; Great Laxey, 20 to 21; Leadhills, 6½ to 6½; Ladywell, ½ to 1; North Laxey, 14s. to 16e; Parys Mountain, 4s. to 6s.; Roman Gravels, 9½ to 9½; Ricokhope Lead, 17s. 8d. to 30s; South Condurrow, 7½ to 7½; Tankerville, 6½ to 6½; Tincroft, 9 to 11; Van, 30 to 33½; West Chiverton, 10 to 12; West Loigus, 73 to 75; Grenville, 30s. to 86s; Electhardt, 8½ to 6½; Richmond, 4½ to 4½.

THUBBAT, SEPT. 14.—Market quiet, and prices the same as yesterday.

FEIDAT, SEPT. 14.—Market continues very inactive. Carn Brea, 21 to 23; Devon Great Console, 3½ to 3½; East Van, 4½ to 4½; Glenroy Lead, ½ to 1; Great Laxey, 20 to 31; Ladywell, ½ to 1; Leadhilla, 5 to 5½; Farrys Mountain, 4s. 6d, to 6s. 6d.; Morth Laxey, 14s. to 16s.; Roman Gravele, 9 to 6½; Roma Gravele, 9 to 69; Rook-hope Lead, 15 to 19:: South Condurrow, 7 to 7% ex div.; Tankerville, 6 to 6½; Tincroft, 9½ to 10½; Van, 30 to 32; West Chiverton, 10 to 11; West Tolgus, 74 to 76; Grenville, 1½ to 2: Dolocath, 22 to 24.

NORTH CORNWALL.—This property is looked upon with much favour by those test acquainted with it. It has been inspected by gentlemen of remarkal leability and trustworthiness, who all concur is sanguine expectations as to its future. We undertained, also, that satisfactory progress is being made at head-quarters, which will emable the company to test the merits of the concern.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—8. Toy, Sept. 12: The new shaft is now down 10 fms. 4 ft. below the deep adit level. In the east part of the sett (Growlwm), in the cross-cut driving towards the new lot, the ground at present is not so hard as it has been, and we are constantly meeting with joints and cross-heads containing barytes and quart, but no brauch of importance has been met with during the week.

ASSHETON.—John Craze, Joel Maniey, Sept. 13: Nochange in any other part of the mine since last report. Setting report will be sent next week. We have shipped the parcel of ore (30 tons) sold to Messrs. Sheldon, Bush, and Co.

BEDFORD UNITED.—R. Goldsworthy, W. Phillips, Sept. 13: We have completed casing and dividing the engine-shaft from the 127 down to the 138. The lode in the 138 cast has been taken down, and so far as seen is worth 104. per fathom. In the same level west the lode is worth 134. per fathom. No lode has been taken down in the 127 cast. In the same level west the lode is producing saving work. The 116 cast is suspended for the present, and the men employed rising in the back against the winze, were the lode is 2½ ft. wide, worth 124. per fathom. The lode in the 115 west is producing good stones of ore. The lode in the 108 cast is 3 ft. wide, worth 34. per fathom. We have not yet discovered anything in the cross cut diving north from the 108 west; we purpose continuing this for a short distance further, and if no lode is interested driving will be suspended. The stopes throughout the mine are producing their usual quantity of ore, worth on an average 82. per fathom.

BULE HILLS.—S. Bennetts, A. Gripe, Sept. 3: The Socross-cut north from the engine-shaft is being pushed on as fast as possible towards the north part of the lode. Eastward at this level the end is being driven (for dispatch) in the killas on the north side of the south portion of the lode. The lode itself will be taken down in the course of a few days. The rise in the back of the 30 east, on the north lode, is worth about 64, per fathom, and in the en

ross cuts to cut it is locally first south we shall intersect the east and west lode, where we shall intersect the east and west lode, where we consider the course of lead.

COMBMARTIN.—J. Comer, Sept. 13: I am pleased to inform you that the COMBMARTIN.—J. Comer, Sept. 13: I am pleased to inform you that the vater has gone down within 1 ft. of the bottom of the 37. We hope to commence our working there in a day or two. We have cleared the 28 west of cross course if ms.; the portion of the lode carried by the former workers is small. We have but the men to cut into the side of the level, to accretain the size and value of the cde; the portion we have already cut into is producing good ore. The lode in the 28 east is slow for progress, but of a very promising character, and it is letting but water freely.

put the men to cut into the side of the level, to ascertain the size and value of the lode: the portion we have already cut into is producing good ore. The lode in the 28 cast is slow for progress, but of a very promising character, and it is letting out water freely.

CWM DWYFOR.—Joseph Jewell, Sept. 13: The lode in the 20, driving west of Stewart's stuft, is now 2 ft. wide, with a branch of lead and sulphur 4 in. in width on the south wall: the lode all through contains a great quantity of sulphur, and will all have to be dressed over. As this level proceeds west we hope to meet the win of lead ground which we have proved in sinking the winze from the 10 to be dipping in that direction. In the winze sinking below the 10, west of Stewart's shaft, the reen are desuing the lode: the lode is getting wider, and we are by means of this winze opening up stoping ground; it will take us six weeks more to communicate this winze with the 20.

CWM YSTWITH.—Sept. 11: In Michell's level east on Michell's lode, the lode is still small and poor. The stope in the back of Michell's level west of cross-cut on Michell's lode is worth 10 certs. of lead ore per fathorn. In Michell's level west on the new lode the lode is 2 ft. wide, composed of olay-slate, blende, with small spots of lead ore, but not sufficient of the latter to value, but we save all the lode stuff for blende. In Michell's cross-cut north the ground is a little more tavourable for driving than we have had it lately, but still rather stiff. In the 13 over Michell's level on the new lode the lode is 1 ft. wide, on worth 10 certs, of lead ore per fathom. In Gill's upper level east on the new lode we blasted a few holes in the lode; it shows a nice branch of lead ore, and worth 10 certs, portation. In Gill's upper level east on the new lode the lode is 1 ft. wide, composed of spar, with spots of lead ore and blende—a promising lode—The stope in the back of the lode, are each worth 12 certs. of lead ore per full heavy lately and the lode is 1 ft. wide, composed of spa

egularly.
DEVON GREAT CONSOLS - James Richards, Sept. 13: Wheal Anna Maria DEVON GREAT CONSOLS.—James Richards, Sept. 13: Wheal Anna Maria: In Blackwells shaft the water, owing to the heavy raims, being quick and the sinking troublesome, the shaft with other points of operation throughout the mines during the present depression are suspended.—Wheal Josiah: In Richard's engine-shaft the ground continues davourable for progress, and the present bottom as within 4 fms. of the required depth of 300 fms.—Wheal Emma, Thomas's Engine-Shaft: Milford's cross-cut south at the 145 east, and Alford's cross-cut outh at the 100 west of the Incline shaft, are for the reduction of costs at present uspended. Friend's cross-cut south at the 137, east of the inclined shaft, is within a short distance of the new south lode, on reaching which it is hoped that good and profitable ground will speedily be opened up.—New Shaft, New South Lode: In the shaft which is down 9 fms. below the 175, about 5 tt. of the ode is being carried, which is worth 4 tons, or 127. per fathom. In the 165 east the present at is pletding 2 tons of ore, worth 55. per fathom, and in all probability a portion of the lode is stanting, which will be proved in the ordinary course of vorking. The 145 and the 115 east are for the present suspended. In the 190 east the lode is from 2 to 3 ft. wide, and is worth 3 tons, or 9, per fathom. In the 09 cast and east of Webber's cross cut on the south part of the lode, the lode roves to be 6 ft. wide, composed of capel, quartz, peach, mundic, and some ore figod quality, altogether presenting a very kindly appearance.

roves to be 6 it. wide, composed of capel, quartz, peach, mundle, and some ore good quality, attogether presenting a very kindly appearance. DUBBY SYKE.—W. Tallantire, Sepp. 1: Dubby Syke Level: The vein we are riving on east still yields about the same quantity of lead ore, and kooks very protaing; I think it looks better than I have ever seen it—it is composed of rich red ineral, carbonate of barytes, and spots of lead ore. There is no change in the cose-cut we are driving south.

sineral, carbonate of barytes, and spots of lead ore. There is no enange in excession we are driving south.

EAST CRAVEN MOOR.—D. Williams, Sept. 6: The new shaft from surface, pon Hardgate end vein, to communicate with the 42, is down 26 fathoms. The ein in the bottom is fully 8 ft. wide, composed chiefly of gossan, limspar, and so stones of lead ore; the latter improving as we get deeper. In the crossate south, irom the 56 to Woodhouse vein, we have just cut a branch of spar bout 2 is, wide, and intermixed with good patches of lead ore.

EAST DARREN.—Sept. 12: The south lode cut through in the eastern crossate, in the 50, has proved small and poor, but we have commenced driving west in the same to a-certain if anything good can be discovered. In the cross cut outh, in the 68, we are making good progress towards reaching the lode, and re daily expect to intersect the same, which we hope will be found productive;

the stope is the stope in the back of the cross cut A continues just as last reported,
GAWTON COPER.—George Rowe, George Rowe, jun., Sept. 8: The lode in the stopes below the 117 is worth 100, per fathom. The lode in the lu5 saxt is 6 ft. wide, yielding 6 tons of ore and mandic per fathom. The lode at the same level, driving west of cross-cut, is reduced in value; now worth 100, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the stope in the back of the 195 west is worth 300, per fathom. The lode in the 25 c. and driving south. The end is in the middle of a large lode, some being left on either side. The part we are extrying has a good rip of blende mixed in the 300, cast of No. 4 winze, the lode is worth 300 with 196 with

5 ft. in a large lode spotted throughout with lead ore, but the north will have yet been reached. The lode in the stope over the 120 fm. level, 35 fathoms we level, 45 fathoms west of Bryn Piea shaft, the lode is worth 12 to stope over an level, 45 fathoms west of Bryn Piea shaft, the lode is worth 12 to 12 cvit. of shaft, will produce ½ ton cf ore per fathom. The lode in the stope over same level, 65 fathoms west of Bryn Piea shaft, will produce ½ ton cf ore per fathom. The lode in the stope over the Bryn Piea shaft, has been driven 2 fathoms 5 ft.: lode showing spots of ores fathom. The four tribute pitches continue to produce 10 to 12 cvit. of on Bryn Piea shaft, has been driven 2 fathoms 5 ft.: lode showing spots of ores fathom. All surface work is being carried on with the utmost dispatch, is at work, and every effort is being made to complete the same as quickly a sible, when a great saving in the dressing cost will no doubt be achieved, is at work, and every effort is being made to complete the same as quickly a send out samples of 40 tons of silver-lead ore to-day, for sale on the 24th int. continues to open up well. The upper eastern level is looking splendid. We lead at 1½, 13, ed. per ton, 25 tons being taken by Walker, Parker, and Co. GREAT DYLIFFE.—Evan Evans, Sept. 11: Dyllife Lode: The 121 is tone by Adam Eyton.

GREAT DYLIFFE.—Evan Evans, Sept. 11: Dyllife Lode: The 122 is per fathom, but the west end at present is unproductive. We expect sensit men at 3½, 17s, 6d. per fathom; worth about 164, per fathom. The stope sover the 120 cast and west are actions: worth about 121 per fathom. The stope in the following sensitive of the 132 west is set to six men at 3½. Is. per fathom. The stope is a fathom. The stope sover the 120 cast and west are actions: worth about 120 per fathom. Worth about 121, per fathom. Worth about 122 per fathom. The stope in a fathom is worth about 124 per fathom. Between the 160 and 120 we are displayed to the 132 west is set to six men at 3½. Is. per fathom. The stope is a f

blende per fathom.

GREAT RETALLACK.—J. Harris, Sept. 12: There is very little change of the shaft, since I last advised you. In clearing of the shaft, since I last advised you. In clearing of the shaft of the sha

ook 50 east we have come across some nice blends ground on the fording out lode, a few fathoms east from the shaft, on which I shall put some mean and day to drive back towards the shaft, which I am hoping will turn out, and of ground for blende, as there was some good blende ground in the level of ground for blende, as there was some good blende ground in the level of GREEN HURTH.—William Vipond, Sept. 7: The end on the branch south on No. 1 cross-vein is still yielding I ton of ore per fathom. I judge the appearance of this end that there must be another vein or brach early west side; probably we may get them both together in the same end shall the same branch going morth is now holed through to one of the branche west side; probably we may get them both together in the same end shall be southerned to the same branch going morth is now holed through to one of the branche viously worked; we are now stoping the roof of this branch—it yielding 8 cwts. of ore per fathom. The end on the branch on the east side off not a vein is twitched and poor at present, and is yielding 8 cwts. of ore per fathom is the east in several thin beds, we take this side off next month, and see if there is not something more laying there east; the flats of ore seen to indicate that there is. The stope on No. 2a vein is worth 8 cwts. of ore per fathom; we shall be into more cry ground is cope in another week or two. The stope below the level in the north end ay ing ½ ton of ore per fathom; it is strongly brangled mill stuff, and not set he cross cut south from and the level, or Fire Away cross-cut, the me heigh their hay; we shall begin rising in one of the strong branches that cross the pass course, and are the cross cut south from and the level, or Fire Away cross-cut, the me heigh their hay; we shall begin rising in one of the strong branches that cross the law of the strong branches that cross the level and the mean are back. We have sent no ore to market this welk ye suppose the carrier has come for or this after?son with two cars.

copper, and I have every reason to suspect an early improvement in the brazins.

Kingston Consols.—J. Chynoweth, Sept. 13: Good progress has been in driving the 30; the lode is 3 feet wide, composed of capital stones of and blende. In the 18 east the lode is 2 ft. wide, worth ½ too of bleed from 2 to 3 cwts, of lead per fathom. In the same level west there is a kindly end for a speedy improvement. Good progress has been mide in the same level west there is a ling No. 3 winze below the 18; the lode is producing saving work for lead ling No. 3 winze below the 18; the lode is producing saving work for lead 10 to 12 cwts, of lead per fathom, or 171. Per fathom. In the stope of the 18 no change to notice since my last. We weighted off yesterday ores, the 13th inst.—No. 1 lead, 9 tons 2 cwts. 2 grs.; No. 2 blende, 30 tons 6 cwts. 3 grs. 3 lit be chinery in good working order.

KIT HILL TUNN ELL.—H. Bennett, Sept. 13: During the past week Dr. Em and wen hope next week to commence cutting the approaches at both the early and the continuation of the Wheal Newton silver lode, and altogether we saw that the same continuation of the Wheal Newton silver lode, and altogether we may make.

proper. H

new sites instead into the lode in the bottom of the leaf. We hope to make good progress in sinking gigne will be ready for winding next week. If the leaf is gone in the St. driving west from engine-shaft, but e side ore in the St. driving west from engine-shaft, but e lote ore in the St. driving west from engine-shaft, but not look so well. There has been no change in the same expect it will take us about six weeks from this time to expect it will take us about alk weeks from this time to expect in the department of the same pet of ind which has been so productive in the upper section of not which has deen so productive in the upper section of pretty well, and are yielding a fair quantity of ore, and you tous lead ore to-morrow. The machinery is all in good

joint 20 tons lead ore to-morrow. The machinery is all in good spinut 20 tons lead ore to-morrow. The machinery is all in good spinut 20 tons lead ore to-morrow. The machinery is all in good given the first sale. We are getting on with a large quantity of lead or the first sale. We are getting on with a large quantity of lead or the first sale. We hope to increased quantities will follow. The sale, and continued sales of increased quantity of lead to the sale, and the winze sinking under the adit. There is also mis characteristics, we shall have a great improvement. In consoling characteristics, we shall have a great improvement. In consoling characteristics, we shall have a great improvement. In consoling characteristics, we shall have a great improvement. In consoling characteristics, we shall have a great improvement. In consoling the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode, we have the quantity of sulphuric acid gas issuing from the lode on time to fine the property of the length of shalt (13 ft.). This shalt is about 35 fms, east of he length of shalt (13 ft.). This shalt is about 35 fms, east of healt, and, so far as we can judge, the dip of the ore seems to be halt, and, so far as we can judge, the dip of the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in the farmous best discovery made in the district since that made in th

goperations here, as we expect to drive the 40 in richer ore yrains have compelled us to suspend our operations in the ready rough of the main?

J. Prisk. C. Rowe, Sept. 13: The sinking of the main?

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J. Prisk of the sept. 14: The sinking of the main?

J. Prisk of the sept. 14: The sinking of the main?

J. Prisk of the sept. 14: The sinking of the main?

J. Prisk of the sept. 14: The sept. 15: The sinking of the main.

The tode in the 27 fm lev-lead west on No. 2 of the main.

We are looking forward to a decided important of the sept. 15: The sept. 15:

rations, but we expect to sample on Tuesday next about 35 tons of this will be from our new jiggers, ery good parcel of ore.

G. Green, Sept. 12: I am sorry to inform you that trangement with the shaftmen, owing to the great usent trouble in sinking. The bargain was set to k the shaft 9 ft., drive 3 ft. in the western end of x bearers on eistern in position, place pumps in working order for the sum of 41t. In addition to at 90s, per cubic fathom. If the whole of above is men to have a premium of 6t. I may say that the re been completed before cross-cutting to the lode, water; it would have saved much labour, time, and would be sufficient bead-other change to notice. We are doing our utmost It is quite impossible to drive the 24 until we get placed, &c., as at present we have been compelled so cut to pool back the water from the shaft, and 15 minutes water. We are progressing steadily but the mine, and to put more men on just now would commensurate quantity of work against the same shall be lost, I can assure you, in prosecuting fers success.

Sept. 10: The men are still clearing the level on the

The men are still clearing the level on the g, 8-pt. 10: The men are still clearing the level on the reached the end of ground. We are still meeting the we are taking some good work for tin. We have ket, and shall take it to Hayle to sample on the 11th. arris, Spt. 13: The cross-cut in the 20, driving to 8 fms., the lode met with continuing in the same but I think we shall find it coming into its natural tfurther. The lode is about 2 ft in width, composed, and a small string in earm of lead, first seen in the g down in the forebreast. The lode is getting harder e proceed, and by the indications I think we may exvery shortly.

we, 8-pt. 12: In the bottom, or the 146, the lode in omposed of quartz and, a small quantity of lead. In

to see that the second of the

PENHALLS.—S. Bennetts, P. Vian, Sent. 3: The 70 east end is at present unprotestive, it being just now on the downright lode, and between two sections of north portion of the lode being leven at the with of the end. In both the 55 east and south there is no change worthy of notice. The 48 west is worth 105, per fin. More than 105 of the 105 east and south there is no change worthy of notice. The 48 west is worth 105, per fin. More than 105 east and 105 eas

gresses well. The beds are dipping fast, and I expect a season with ore.

TANKERVILLE.—A. Waters, Sept. 13: To sink for fork, out plat, and make exerthing ready for sinking Watson's shaft below the 192, by nine men, for the exerthing ready for sinking Watson's shaft below the 192, by nine men, for the exerthing ready for sinking Watson's song a 15. With res.

TANKERVILLE.—A. Waters, Sept. 13: To sink for fork, out plat, and make everything ready for sinking Watson's shaft below the 192, by nine men, for the sum of 57L. The 192, to drive east, by six men, at 15. per tathom; lode 5 ft. wide, worth 1 ton per fathon. The said level, to go west of shaft, by six men, at 14L per fathom; lode worth ½ ton per fathom. This end is 3 to 5 fms. from the main west run of ore. No. 1 stope, in back of the 192, by six men, at 14L per fathom; worth 1 ton per fathom. No. 3 stope, by six men, at 60. per fathom; worth 2 tons per fathom. No. 3 stope, west of winze, by six men, at 60. per fathom; worth 2 tons per fathom. To strip down the side of the 180 west, and drive the end on footwall course of the lode, by six men, at 14L per fathom; worth ½ ton per fathom. The 180 east, by six men, at 16L per fathom; worth ½ ton per fathom. The 180 east, by six men, at 14L per fathom; worth ½ ton per fathom. The 180 east, by six men, at 14L per fathom; worth ½ ton per fathom. The 180 east, by six men, at 14L per fathom; worth ½ ton per fathom. The stope in back of the 180, east and west of winze, by four men, at 6L per fathom; lode worth 2 tons per fathom. No. 2 stope, by four men, at 6L per fathom; lode worth 1½ ton per fathom. No. 2 stope, by four men, at 6L per fathom; lode worth 15 ton per fathom. The 187, to so west, and they six men, at 192, per fathom to the per fathom. The 180 cross-cut to produce the solution of No. 1 side lode, by four men, at 16. per fathom. The 180 cross-cut of per fathom. The 190, to drive worth 150, to specify the per fathom. The 190, to go west to Maddio's cross-cut, to be continued north of No. 1 side lode, by four men, at 16. per fathom. The 190, to drive east of Maddio's cross-cut, to be continued north of No. 1 side lode, by four men, at 16. per fathom. The 190, to drive east of Maddio's cross-cut, to be continued north of No. 1 side lode, by four men, at 16. per fathom. The 190, to go west no south lode, by four men, at 180. per fathom.

TAUGHAN.—Sept. 19: The deep adil level each has been extended during the ment mouth 2 fins. 4 h., in a lode containing constonal spots of lead and bloods, a run of our ground met with in the 28 alove. The rise love the 32 has been extrained up 1 fin. 3 ft. 4 h., and communicated to the winz in a large lode, yielding and contained the sept. 4 has been active to the sept.

the same level was set to six men, at 3t. 10s. per fathom. The east stope in the cauck of the same level was set to six men, at 3t. 10s. per fathom ilode 5 it. wide, worth 12t per fathom. To drive the 72 north, by two men, at 5t. per fathom. To drive the 48 cast, by four men, at 7t. per fathom; here we are currying 3 ft. of the north part of the lode, which yields 2 tons of mundle per fathom, with good stones of copper ore intercaixed—a very promising lode.

WHEAL GRENVILLE.—T. Hodge, Sept. 13: The lode in the 150 cast end is looking more pomising, producing occasionally good stones of tin. There is no change in the other bargains worthy of any note. The heavy parts of the 80-in. engine are fixed. This, and all other surface work, is being pushed on as fast as possible.

engine are fixed. This, and all other surface work, is being pushed on as fast as possible.

WHBAL KITTY (St. Agnes).—B. Davey, R. Harris, Sept. 3: New Shaft, Pryor's Lode: We have resumed the driving of the 15t west: the lode is producing good-stones of tin, and we look forward to an early improvement at this point. The lode in the 143, driving west of shaft, is 5t t. wide, and worth for tin 9t. per fathom; at this point also there are indications of improvement. The lode in the 143, driving west of shaft, is 15t, wide, and worth for tin 9t, per fathom. The lode in the 180, driving west of shaft, is 24; ft. wide, and worth for tin 9t, per fathom. The lode in the 180, driving west of shaft, is 24; ft. wide, and worth for tin 9t, per fathom. The lode being stoped down to the west of the rise in the back of the 64 is worth for tin 12t, per fathom we shall resume driving the end in a week or two. The lode in the 10t, driving west of engine shaft, on the old lode, is worth for tin 8t, per fathom. The lode in the 90, driving east of engine-shaft, on the old lode, is worth for the 18th per fathom.

WHEAL NEWYON.—H. Bensett, Sept. 13: The lode in Cook's shaft is 90 in. Wide, consisting of carroouste of iron, prism, and sulphur-mundic, with good stones of silver ore; it has every appearance of an early improvement. The 40 and, west

of Cook's shaft, has much improved, lode yielding rich silver ore, proving that we have a rich piece of ground from this point to the level above. A new stope in the back of the 40, seat of Cook's, is looking well, yielding rich silver ore. The stope in the back of the 40, east of Cook's, is rather improved since last report. The stopes in the 30, seat of Cook's, are still producing rich silver ore. We have resumed the sinking of Hampton's shaft, and hope in a few days to intersect the lode. All other points are without change. I am pleased to say the mine continues to open up quite to our expectation.

WHEAL RUSSELL. J. Bray, Sept. 13: The lode in the 25 continues large, and producing some good ore and mundle, but not to value. The lode in the pitch above the 40 is improved, worth 4 tons per fathom. No other alteration.

WHEAL UNY. —W. Rich, Matthew Rogers, Joseph Rich, Sept. 3: Hind's engine-shaft is in full course sinking below the 180. The lode in the bottom is worth 414, per fathom. The rich in the back of the 180 east, towards Goodinge's shaft, is worth 61, per fathom. The 180 end west is worth 82, per fathom. The 150 east is worth 94, per fathom.

TO THE METAL TRADE.

FOR COPPER, TIN, LEAD, &c., apply to-MESSRS. PELLY, BOYLE, AND CO., SWORN METAL BROKERS, ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON. (ESTABLISHED 1849.)

The Mining Market: Brices of Metals, Ores, &c.

1		TIN. 2 s. d. 2 s. C
IBON. £ s. d. £	s. d	English, ingot, f.o.b 68 10 0 - 69 0
Pig, GMB, f.o.b., Clyde 2 14 3-	10.0	
, Scotch, all No. 1 2 16 0- 3	10 0	
Bars, Welsh, f.o.b. Wales 5 10 0- 5	12 0	Australian 63 15 0- 64 0
in London. 5 17 6- 6	0 0	Banca 68 0 0- 69 0
", Stafford., ", 7 10 0- 8	0 0	Straits 65 0 0
in Type of Tees o 10 0- 0	0 0	Strate
Swedish, London 9 10 0-10	0 0	COPPER,
Rails, Welsh, at works 5 0 0- 5	00	Tough cake and ingot. T3 0 0- 74 0
Railway chairs	-	Best selected 75 0 0
,, spikes	- 0	Sheets and sheathing . 78 0 0
Sheets, Staff., in London 8 15 0- 9	0 0	Flat Bottoms 81 0 0
Plates, ship., in London 7 26-7	50	Wallaroo 80 10 0
Hoops, Staff 7 10 0- 8	0 0	Burra, or P.C.C 74 10 0
Nail rods, Staff. in Lon. 7 5 0-	_	Other brands 74 10 0- 76 0
STEEL.		Chili bars, g.o.b 67 0 0
English, spring16 0 0-20	0 0	Риозриов Виомия.
, cast	0 0	Bearing metal
Swedish, keg16 0 0-	-	Other alloys £120 0 0- 140 0
fag. ham17 10 0-	-	Other shoys 2120 0 0- 140 0
LEAD.		BRASS,
	_	Wire 8d
English, pig, common 20 0 0-	-	Tubes10
	_	Sheets 9
		Yel, met, sheath. & sheets. 6% - 7%
	- 0	Nails composition 834 - 934
red22 5 0-23		Name composition 674 - 874
white	0 0	TIN-PLATES.* per box.
		Charcoal, 1st quality 1 26- 1 3
patent snotse 10 0-	=	, 2nd quality 1 1 0- 1 1
Spanish 19 15 0-	_	Coke, 1st quality 0 19 6
QUICESILVEB.		,, 2nd quality 0 17 8- 0 18
Flasks of 75 lbs., ware. 7 15 0-	-	Black per ton 16 0 0- 16 10
SPELTER.		Canada, Staff. or Gla., 12 0 0- 18 0
Bilesian or Rhenish 19 10 0-	_	at Liverpool 12 0 0- 18 0
Prolich Granece 21 00-	_	
English, Swansea 21 0 0 Sheet zino 22 10 0- 24	10 0	Black Taggers, 450 of 30 0 0-

Canada; IX 6s. per box more than IC quoted above, and add 8s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

Remarks.—According to the Board of Trade returns of the exports of metals for last month there would seem to be a fair amount of business doing, yet strange to say our markets apparently derive no benefit from it, for they still assume a gloomy appearance, and prices generally are without improvement. How the exports are maintained is a mystery, but they certainly do not entirely proceed from bone fide cash transactions, and probably a reference to the bill book or to the consignment list might explain a good deal. The figures are, therefore, no indication of the soundness of business, as that depends more upon the character of the demand than on its extent; and it is feared that owing to the diminution of regular business many have been induced to accept risks which they would not otherwise have done, and thus an irregular support has been given to the markets, which in some measure accounts for the figures being kept up, and at the same time is partly the reason of no progress being made. Our markets would very soon right themselves if there were no departure from the customary trade terms; but as long as increased risks are taken very little can be advanced in their favour, for no confidence can be placed in prices which are artificially sustained, and rendered liable to any sudden or serious reaction. There is usually a little improvement in the demand at this season of the year, but as yet we fail to discern it; it may come later on, but at present there are no signs of its approach, and in any case will probably be much below the average, for irrespective of the influence which the war has upon trade, there is a very uneasy feeling prevailing about the French elections; and as the time draws near for them to come off more anxiety is likely to be displayed. Should there be no disturbances over the jelections in France, there will at least be intense excitement, and as trade always suffers whenever political matters cause public opinion to run high, we may fully expect that commercial affairs on the Contine

injectal terror throughout Europe, and buyers, therefore, cannot be too cautious in a thick operations during the next month, and it would be well to reduce risks to a minimum.

COPPER.—Our markets continue in a very week condition, and prices are gradually tending downwards, the demand all round is very limited, and likely to remain so for some time to come. The average price of ores at the Swansea Ticketing on Sept. 11 declined to 11s. 74d., the whole sale amounted to 3640 tons. There will be another sale on Sept. 25. Stocks of Chili bars may be expected to increase, as smelters will not buy them while they can be more than fully supplied with ore at prices which pay them much better than bars at 67. There is some disposition to sell Chili, but buyers generally will not look at it at anything approaching current rates: holders must, therefore, be prepared to accept lower rates or withdraw entirely from the market. This might suit some few, but sellers mostly object to stand off to make a greater sacrifice h-reafter. There is no escape for bolders this time, they have lost their opportunity of realising, and the market has crambled away to such an extent as to be irreparable. Time after time have we advocated holders letting out their stock, or at least some large portion of it, and it is a subject to the subject of th COPPER.—Our markets continue in a very week condition, and

In angle, bolt, and rod Tons	169,118	***	141,614]	177,469	
rails	322,428		274,233	5	391,986	
, wire	33.933		29,137			
, hoops, plates, and sheets	128 5/8	***	120 950	***	130,828	
The Scotch pig market has been quiet, and	d mixed	num	hove and	OFF		9.4
	Davin D	uum	Ders are i	ion de	toted ora	. 00
				_		
Week ending Sept 9, 1876		*****	**********	Tons	10,479	
Week ending Sept. 8, 1877	********		***********	******	8,753	
Decrease					1.726	
Total increase for 1877	*********			*******	7,351	
Imports of Middlesborough pig-iron int	to Grang	emo	ath :-			
Week ending Sept. 8, 1876				Tons	6,877	
Week ending Sept. 9, 1877				********		
Decrease	**********			******	2,927	
Total increase for 1877					10,362	
FURN	ACES.					
In blast Aug. 25, 1876					115	
To black Ann 98 1977					97	

has been sold at 71. 10s., and nail-rods at 71.; Staffordshire sheets, 82. 15s. Swedish dull, and prices nominal. We do not look for any permanent improvement in the prices of fron this year.

LEAD.—The market is steady, and prices have slightly stiffened. The imports up to the end of August amounted to 63.482 tons, against 52,134 tons in 1876, and 52.240 tons in 1875; and the exports, 28.237 tons in 1876, and 52.240 tons in 1875, and the exports, 28.237 tons in 1877, against 24.277 tons in 1876, and 22.779 tons in 1875.

Tin-Plates.—The demand has fallen off, and prices are easier; the quantity exported amounts to 101.621 tons, again-t 87,484 tons in 1876, and 96,649 tons in 1875. There is a fair demand in New York, and prices there are firm. IC charcoal quoted \$6.62½ to \$6.75; IC coke, \$5.70 to \$5.87½; IC charcoal terne, \$6.12½ to \$6.75; IC coke, \$5.70 to \$5.62½ gold.

QUICKSILVER.—This metal has been dull all the week. Importers have been sellers at 71. 15s., but there is next to no demand, in great part owing to this market being undersold. The imports for this year amount to 2,893,421 lbs., against 2,466.764 lbs. in 1876, and 2,455,124 lbs. in 1875. The San Francisco advices state that the rapid advance there was of short duration, as well as elsewhere. The markets of the world seem to have suddenly collapsed, and the price now quoted in San Francisco is about 47c.

STEEL.—There is no improvement either in English or foreign, and the market closes dull at former quotations.

Tin.—Our market has again been enlivened by one of those stirring little incidents of "going in for the rise," which affords such pleasurable excitement to the bystanders at the ring, but which we fear of times proves rather expensive sport to the entertainers.

Similar tactics have been adopted this week to those of the week before, and on both occasions about the same result has been produced—that is to say, prices have left off just about where they began, and as long as the market is not interfered with to a greater extent than thi

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening. A large business was done in G.M.B. iron on the Glasgow Exchange this morning at 54s. 3d. to 54s. 4d., closing this afternoon rather lower, sellers at 54s., about 2d. less than the closing quotation last Friday. We quote makers' No. 1 iron: Gartsherrie, 62s. 6d.; Coltness, 67s.; Calder, 62s.; Langloan, 64s.; Summerlee, 59s. 6d.; Monkland, 56s. fo.b. Glasgow; Glengernock, 58s. 6d.; Eglinton, 55s. 6d. fo.b. Ardrossan; Shotts 61s. 6d. f.o.b. Leith; Kennlei, 66s. 6d. f.o.b. Bo'ness. Our market is firm for all kinds of best iron, and in marked Staffordshire bars and Yorkshire specialities there has been more business doing. Second class Staffordshire bars are also in better request. Nail-ro's are fully realising late rates. The Director General of Stores for India purchased 15,000 tons of rails last week, which were divided be tween Cumberland, a Sheffield house, and South Wales, with all the accessories. The Indian Government are now buyers of 1002 tons of galvanised strand wire for fencing, and 116 tons of eye boits and staples. Tenders to be sent in by the 23rd inst. Iron rails continue flat; prices very low. Best boiler plates are in slow demand; common plates made in the North are very low in price, and the price remains unsatisfactory. The Exchange at Barrow was firm on Monday for hematites. Middlesborough market on Tuesday weak and undecided, Giasgow market to-day about the same as last week. The Birmingham market yesterday was cheerful, and prices of both pigs and finished iron were firmer. There are various reasons at home and abroad which justify us in reporting the trade a shade better in all departments. Future prospects without doubt look brighter for our trade in the United States of America. At present we can report no advance in the price of tin plates. We believe an improvement in this department is near at hand. Measse distributed by the continues to droop, and will probably recede to 60t. for Australian.

ry, but all other sorts are quiet at our quiet at our quiet are outles. English copper, wrought & unwrought Foreign copper, unwrought Tellow metal	14,363 10,0 6	s. 18	14,839	*****	9.700
Total exports IMPORTS—first 8 months.					
Copper in ores	5,167	******	7,074		10,740
Ditto, regulus	12,760	*****	11,448	*****	13,025
Ditto, bars, cakes, and ingots	28,3 3	*****	25,435		28,944
In pyrites (estimated)	9,434		9,687		12,492
Total Imports	55,714		53.647	*****	65,201
Stocks in Europe and affoat, Sept. 1	35,800	*****	36,100	*****	39,000

Messrs, Fry, James, and Co.—Copper has been without life; sales of some 200 or 400 tons of Chili bars have been reported since our last, at the rate of 671. 10s for go.b. Australian has been little offered, whilst English is obtainable at rather lower rates; this latter fact is due to the considerable decline in prices paid for ores at late ticketings.—Ison keeps steady, but without animation.—Its has fluctuated somewhat in Australian, whilst other kinds have remained fairly steady, but very inactive.—Lead is rather firmer since our last.—Spelter if

slow of sale, and unchanged in value.—TIN PLATES

There is no particular change to notice in the Mrure 2s owing to an advance in the standard, are not set in and copper mines show no change whatever the standard shows are not of the account has again been very moderate show, ment of the account has again been very moderate show, and caused a slight, but temporary, demand the standard shows are transacted. The butch tin sale comes off on the shows a state of 21,500 slabs, against 23,503 clashs at the July sale. This attandard advantage the sale of 23,500 slabs, against 23,503 clashs at the July sale. This attandard of the sale has a sale of 21,500 slabs, against 23,503 clashs at the July sale. This at the meeting here the accounts as presented allow was at the energing here the accounts as presented allow of the country of the country of the country of the country of 250 cl. and a debit balance to August 15 of 257 cl. arsenic, 300. The costs for three months were 627.

Wheal Grenville, 1½ to 1½; the accounts to be presented meeting on the 21st, which is to be held on the unit, show a mated balance against the mine of 2407, 17s. 23. The shows expenditure and receipts for three months to August 15, about a correct of the country of the cou

The Market for Mine Shares on the Stock Exchange has tinued to show but little animation; yet it is an encouraging to find that the constant downward movement in quotation nearly ceased, and in some few instances a slight improvem noticeable. Fortuna has improved about 10s., and are now q 5½ to 6; Russia Copper are rather firmer, at 1½ to 2; Londo California are now quoted ½ to ½, being about 2s. 6d. better; similar improvement is noticeable in New Zealand Kapanga, are now 1½ to 1½. Cape Copper, on the other hand, are scare firm, at 37 to 39. some transactions having taken place at decline on last week's quotations. The Pestarena Company, is at present making a profit of between 3000l, and 400l annum, have recently been inviting subscriptions for 100l the behavior of the amount. The money is required for payithe debt, which has long been a heavy drag upon the concern on doubt is entertained that as soon as this liability is got the shareholders will commence to receive ragular dividends directors have themselves subscribed about half of the amouthey will not only strengthen the company's financial position. The Market for Mine Shares on the Stock Exchange has the whole of the shareholders may well follow their examithey will not only strengthen the company's financial position
thus enhance the value of their ordinary shares, but the
which the mine is at present making is ample to secure the
interest which is now paid to others. There is the further gusthat the mine is managed by Messrs. John Taylor and Son, of
street-place, a firm which is usually fortunate in their selection
the Cape Jopper, Fortuna, Linares, Alamillos, and other mistify, and at the same time bold enough to abandon mines and
mit to the loss as soon as they find that the costs are likely
permanently in excess of the returns. No property abandon
the firm is known to have afterwards proved valuable; and
the firm is known to have afterwards proved valuable; and
position as Pestarena is now, and was made a great success to
same remedy as it is now sought to apply to Pestarena.

During the week the full details of the decision in the case
Eureka Company against the Richmond Company has been re-

During the week the full details of the decision in the case Eureka Company against the Richmond Company has been read and an abstract will be found in another column. That the decision correct in law and in strict accordance with the principle equity as recognized both in this country and America companies to the country and control of the country and country and

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Potts chambe been established an America, and that compared in the case with the case than long the permanen sally explained in United in the United in the permanen or the that part than as the semient law fiely and pro-alledes withing at such sur at, such sur inly down w at the Rich on the Act of the be within

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bearing upon the subject and the explanation of the subject and it is, therefore, to be hoped that the shareholders will the subject to be induced to continue a useless litigation, are the page of the subject to be a general continue as work bearing upon the subject and the explanation of the work therefore, to be hoped that the shareholders will be the therefore, to be hoped that the shareholders will be the themselves to be induced to continue a useless litigation, with the shareholders to be a general opinion that, in the seedally selenging to the Richmond Company, there is an or legilly belonging to the Richmond Company, there is an explaint of mineral which, if judiciously worked, will continue the shareholders fair profits for some years to come. The shareholders fair profits for some years to come. The shareholders fair profits for some years to come. The shareholders fair preater moment. Each has contributed was of far greater moment. Each has contributed was of fair greater moment. Each has contributed was of fair greater moment. Each has contributed was of make this the second town in the State. The shall share to make this the second town in the State. The shall share to make this the second town in the state. The shall share to make this the second town in the state. The shall share to make this the second town in the State. The shall share to make this the second town in the State. The shall share to make this the second town in the State. The shall share to make the shall shal

edief features in the loreign market towards the close to-day lay was a active demand for Frontino and Bolivia and Flaghats. The advices from Frontino and Bolivia are reported subdecty. The Flagstaff news is that during the past an appear of the post of the and that the ore is significant from the state of \$15,000, and that the ore is significant. The size is decidedly satisfactory as showing that active operations. is mines is decidedly satisfactory as showing that active ope-is here been resumed. The opinion seems general that the uphare an excellent property within their own boundary. Industrial furnace will be started as soon as the fourth level is lettyopen. The mine is looking well. New Zealand Kapanga, if, the agent's report, received per the mail this week, is con-mitted of a satisfactory character, and worthy the attentive identical of all concerned in the development of the property. proper, 37 to 39; the July mining reports state that the new immuse to look favourably, and the stopes are yielding well. Myrtums were—from Ookiep, 950 tons of ore of 33 per cent. its; and from Spektakel, 18 tons of ore of 28 per cent. produce, and from been required for 1721 tons. At the last two is the foundation of the company's ore has been sold for about 11,011 tons. At the last two masket 1180 tons of the company's ore has been sold for about 11,011 tons more will be sold on September 25. Compared

and (3) tons more will be sold on September 20. Compared the serge price for the whole Swansea sale on each date the synchical action of their mineral. Thind-l Rey, 300 to 320; the latest telegram received, dated abst.l, states that the produce for the month of August was this, of the value of 16,820L, the ley of the ore being 86 oits. In Bedetailed advices state the profit for July to have been 18.21. Don Pedro North del Rey, ½ to ½; a telegram received 18.5 at 18.

while, $2\frac{1}{2}$ to $3\frac{1}{2}$; the confirmatory meeting for the issue of this is called for next week. The reports from the mine by all in today confirm the advices as to the discoveries of ore Mft. from the cross-cut in the 200 ft. level, and in the face e is improving, well defined, carrying a considerable quan-lowgrade ore. A tank station is started in the 300, the thing too heavy to admit of any progress in sinking. The mass the bottom of the shaft lead the agent to believe they this ledge, there being small streaks of ore, and water pour-limiter.

hathem, as Battea, 1\frac{1}{2} to 1\frac{2}{3}; Plumas Eureka, 2\frac{2}{3} to 3\frac{1}{3}. The Sierra Buttes beigts for August were \(\frac{2}{3}\). 442, and the total Catifornia exhibiting cost of mining and milling, \(\frac{2}{3}\). 136. The Plumas a line receipts for the same period were, including sultiples of the same period were, including cost \(\frac{2}{3}\). 3659; and the total Calfornia expenses, including cost \(\frac{2}{3}\) and \(\frac{2}{3}\). 1615. A ledge 4 ft. wide, of \(\frac{2}{3}\)6 fore, has \(\frac{2}{3}\)6 mered in the seventh level of the Sierra Buttes Mina (California \(\frac{1}{3}\) to \(\frac{1}{3}\) the August clean-up at the Original and California, \$\frac{1}{2}\times to \$\frac{1}{2}\times the August clean-up at the Original lailing was \$10,000; the mill has been temporarily stopped and water supply. Mr. W. Johns reports that the mine maint two years' supply of ore.

the 6d Terrible Mine with the extensive series of claims at the to, belonging to Messrs. Hamill and Chaffer, have be carried into effect. The company now owns 56,000 ft. of nims. The joint properties are under the management any. The United Company had in July 165 men at work parts of the property. The receipts from sales of ore Sumpany. The United Company nau money and sales of ore maintained the property. The receipts from sales of ore infinient to meet this large pay-sheet and the merchants'. Its opening of a railroad to Georgetown on Aug. 1 is calculated the company largely, principally through a reduction of the sale of the

which is now immediately available for washing, though the it can be dealt with this season. The Chairman, who spot, reports the mines in splendid condition for next

wearings, it. 5 to 6 to 5; the timbering of the shaft has been completed, expected that the pit-head and whim will be in working but the end of the present week, when sinking will be reported to the present week, when sinking will be referred to the present week.

Stand has made a layounable specific state shown more activity, with somewhat improved stare shown more activity, with somewhat improved stare shown more activity, with somewhat improved stare shown more activity, with somewhat improved stars that shows a layounable start the rush of water from the Med. In the same level east the rush of water from the manuse to impede work. Satisfactory progress is being the new halvan floors, and the sinking of the engine-

shaft is rapidly progressing. All other work, both underground and at surface, going on as usual. Grogwinion, 2\(\frac{1}{2}\) to 3\(\frac{1}{2}\); the No. 1 lode, in the eastern workings, is producing strings of ore, and is likely to lead to something good. All other points looking fairly well. Wye Valley, 3 to 4; the ore ground in the east end of the adit is looking well, and the sinking of the new shaft in ithis part of the mine is making good progress. The annual meeting will shortly be held. West Wye Valley, 2 to 3; the completion of the machinery is again delayed. The lode in the 40 east is considerably improved. South Cwmystwith, 3 to 4; a good branch of ore, worth over 1 ton per fathom, has been cut in the intermediate level. Prospects at all other points are described as being as good as ever.

Saint Harmon, 2\(\frac{1}{2}\) to 3; the underground workings are going on very well, particularly at the 35 east and 67 west, at both of which points some important improvements are daily expected. The stope in the 35 is yielding good ore. Llanidloes, 1\(\frac{1}{2}\) to 2\(\frac{1}{2}\); 20 tons of lead have been sampled this week. The 8\(\frac{1}{2}\) is being driven towards the ore ground which has been so productive in the levels above, and prospects are most encouraging. Red Rock, 1\(\frac{1}{2}\) to 2\(\frac{1}{2}\); the engineshaft is being steadily sunk, and will reach the 72 in about three weeks from now. The 60 west has improved, as also has the 10 east and both are producing good lead and blende. A stone is about

weeks from now. The 60 west has improved, as also has the 10 east, and both are producing good lead and blende. A stope is about to be started in the back of the 10 east. Caron, 2 to $2\frac{1}{2}$; the whole of these shares have, it is said, been allotted, and the works will be commenced at once

commenced at once.

Pateley Bridge, 2 to 2½; the Rake vein in the 30 east is reported as rapidly improving. There is only some 5 or 6 fms. to drive to get under the rich course of ore gone down in the 20. Other parts of the mine unchanged. West Pateley Bridge, 1½ to 2; the lode in No. 2 shaft is described by the manager as one of the finest he has ever seen at the same depth in the district. The lead crusher is nearly completed, and dressing will be commenced in the course of

ever seen at the same department of the commenced in the course of a few days.

Subjoined are the closing quotations:—
Assheton, ¾ to ¼; Carn Brea, 20 to 22; Devon Great Consols, 3¼ to 3¼; Doleoath, 23 to 25; East Caradon, ¼ to ½; East Van, 4½ to 5; Glyn, ¾ to ½; Ferat Laxey, 20 to 22; Higgson Down, ¼ to ¾; East Van, 4½ to 5; Glyn, ¾ to ½; Ferat Laxey, 20 to 22; Higgson Down, ¼ to ¾; East Van, 4½ to 5; Glyn, ¾ to ½; Fenstruthal, ¾ to ¾; Roman Gravels, 0 to 9½; Tankerville, 3½ to 3½; Penstruthal, ¾ to ¾; Roman Gravels, 0 to 9½; Tankerville, 3½ to 8½; Tenstruthal, ¾ to ¾; Roman Gravels, 0 to 9½; Tankerville, 3½ to 6½; Tankerville, 30 to 35; X; Birdseye Creek, ¾ to 3; Almada and Tritto, ¼ to ½; Argentine, 2½ to 3½; Birdseye Creek, ¾ to ¾; Chontales, ¾ to ¾; Colorado Terrible, 1½ to 2; Condes of Chill; 2¾ to 3½; Condes of Chill; 2¾ to 3½; Huitafall, 5¾ to 48; Flagstaff, 2½ to 2½; Frontino and Bolivia, 2½ to 3½; Huitafall, 5½ to 8½; Frontino and Bolivia, 2½ to 3½; Huitafall, 5½ to 8½; Such Aurora, 3-leits to 5-leits; Tecoma, ¾ to 3½; Carra Buttes, ½ to 4½; South Aurora, 3-leits to 5-leits; Tecoma, ¾ to 5½; Isrra Buttes, ½; South Aurora, 3-leits to 5-leiths; Tecoma, ¾ to ½; Ciraled Mexican, 1½ to 2; Oregan pref., 4 to 4½.

COLLIERIES.—The fortnightly settlement has chiefly engaged

COLLIERIES.—The fortnightly settlement has chiefly engaged attention during the week, and no business of any consequence has been transacted in colliery shares, consequently prices have undergone scarcely any change. Increased activity is recorded from several of the chief fuel districts, and a decided improveundergone scarcely any change. Increased activity is recorded from several of the chief fuel districts, and a decided improvement in the iron and steel trades his given an impulse to the coal markets. Steam and gas coals are also in better demand, and although in some cases buyers have renewed their attempts to force prices still further down, they have been met by firm resistance. In Yorkshire the iron trade shows a very clear improvement, especially as regards steel ratis. Several of the iron founders of this district are full with orders which will keep them busy for the next six months, and the Indian Government is a buyer of 12,000 tons of rails. It appears that the 2600 additional miles of railway about to be laid in India will require 125,000 tons of rails, and these, as well as iron sleepers and locomotives, have been ordered from various firms in different parts of the country. Reports from Altami are satisfactory. The permanent levels at section C are being carried on, as for some time past, in splendid coal, without intersecting any "fault." At section D the main engine pit is by this time into the coal, and a great body of coal can be opened out here. The prospects of the colliery would, therefore, appear to be excellent. The shares close at 4 to 4½. At Llay Hall the output increases, and the new engines work satisfactorily. The price obtained at the pit's mouth for so good a coal is decidedly low, and efforts should be made for a better market. The clay works are yielding good profits, and the quantity of coal is daily sent of per rail, prices are miserably low. The quality of the "main" coal here is reported to be very fair. At Chapel House the prices obtained for coal continue to be most astisfactory, with the exception of a slight reduction in slack, owing to the stoppage of brick making for the season on account of the inelement weather. This, however, can make little difference to a collegy where scarcely any slack is made, and we hear that the average profit per ton is well maintained, while

At Swansea Ticketing, on Tuesday, 3640 tons of copper ore were sold, realising 26,804l. 12s. The particulars of the sale were—Average standard for 9 per cent. produce, 81l. 1s. 9d.; average produce, 12 11-16; average price per ton, 7l. 7s. 3d.; quantity of fine copper, 462 tons 17 cwts. The following are the particulars of the

Copper, 402 tons 17 Ewis. The following are the particulars of the two last sales:—

Date. Tons. Standard. Produce. Perton. Perunit. Orecopper. Aug. 28 2373 ... £ 82 9 9 1256 £ 7 10 5 11s.1054... £ 59 8 6 Sept. 11.... 3840 81 1 9 12 11-16 ... 7 7 3 ... 11 7 57 18 3 Compared with the last sale, the decline has been in the standard Compared with the last sale, the decline has been in the standard 11. 8s., and in the price per ton of ore about 3s. 6d. Messrs. Richardson and Co. report that the Union ore gave a produce of 5, and sold at 10s. 2d. per unit; Cape produce 31 1-16, per unit 12s. 0\frac{1}{2}d.; Betts Cove produce 9\frac{1}{2}, per unit 11s. 3\frac{1}{2}d.; New Quebrada produce 1\frac{1}{2}\frac{1}{2}, per unit 11s. 9\frac{1}{2}d.; Algerian produce 7\frac{1}{2}, per unit 11s.; Cavera produce 7\frac{1}{2}, per unit 11s. 0\frac{1}{2}d. On Sept. 25 there will be offered for sale about 2750 tons of ore, from Betts Cove, Cape, New Quebrada, Carracedo, Almodovar, Portugal, Aljustrel, Tan-y-Bwlch, and elsewhere

A petition has been presented to the High Court of Justice for the Inding up of the New Dale Mine (Limited).

Mr. George H. Robertson, (Finlay, Robertson, and Co., of Liversol) has joined the board of directors of the London and Lancashire Fire Insur-

ance Company in Liverpool.

The London and Glasgow Engineering and Iron Shipbuilding Company report for the year ended June 30 states that the balance at credit of profit and loss account (including a balance brought forward from previous account) amounted to 9876!. After providing for a further loss of 517. under the estate of Malcolmeon Brothers, Portlaw, Ireland; out of which the directors recommend a dividend at the rate of 6 per cent, per annum, or 1/. 10s. per share, which will absorb 7174!., leaving 2701/. to be carried to next year's account.

* * With this week's Journal a SUPPLEMENTAL SHEET is given With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspon-lence; Rock Boring Machinery—No VII.

J. Darlington); Stamping; Colliery Managers' Association; the Tecoma Mine; the San Juan Silver Mines (W. Weston); Frontino and Bolivia; the Frontino (Antiquia) Company; New Quebrasla Company (W. William); the Hultafull (Sweden) Mining Company; R. Oxlend, W. H. Bumpus); the Mining In New Seuth Weles (R. D. Adams); St. John del Rey Company; Limited Liability; the Functions of Mine Inspectors; the Manganese Urgistrict; Successful Mines and Mine Captains; the Lead Mining Interests (R. Tredinnick); Cambrian Mines (H. Boundy); Morfa-du Mines; Wheal Grenville (T. Ticklav); Bedford United Mines—Limited Liability (J. Wedgwood). Treleigh Wood Mine; the Mines of Llanrwst District (J. Roberts); Tyn-y-Fron Mine (A. Francis); North Devon Mining—The Kit Hill Tunnel—Soft Steel and Ingot Iron—The Richmond Consolidated Mining Company—Foreign Mining and Metallurgy—Foreign Mines—Registration of New Companies—Patent Matters—Meetings of East Pool, West Wheal Seton, Killifreth, Wheal Agar, and other companies.

LEADHILLS .- We understand that all the directors and the engineers have visited these extensive mines during the week. The annual meeting is fixed for the 27th inst.

WEST PATELEY (Lead).—The manager, Mr. David Williams, M.E., writes:—"We have one of the finest lodes in No. 2 shaft I have ever seen at the same depth in the district." This shaft is have ever seen at the same depth in the district." This shaft is being struck with a full pare of men, and will be down to the 20 the early part of next month, when levels will be driven on its course both east and west, laying open large reserves of lead ore, available for market. The other points of operation are progressing favourably.

LLANRWST.—Llanrwst will now speak for itself. The directors and several large shareholders from London will be on the mine at 12 o'clock on Saturday next, the 22nd inst., and will be glad to meet any shareholders who would like to be present on that occa-

sion. A parcel of 50 tons of lead is dressed ready for the market, and will be immediately sold; and there are also about 20 tons of lead dressed towards the next, which will be a larger parcel, and the sales will be continued.

the sales will be continued.

WHEAL GRENVILLE.—As the proceedings of the committee have been recently questioned in connection with the new work, although sanctioned by two general meetings, they feel that the proper course for them to adopt is to hold the next meeting on the mine on Friday, September 21, thus giving the shareholders the opportunity of seeing and judging for themselves. The mine is situated about one mile from the Camborne Station on the West Cornwall Railway.

MINING IN QUEENSLAND.—Just as we were going to press we received a letter from our correspondent at Brisbane (June 30), in which he says:—Our tin fields are rapidly and steadly developing, and their permanency is now proved beyond doubt, and the low prices now ruling have not so far affected supply. The Chinamena are going on the fields in thousands, and they will be able to produce stream tin at half what it costs with British labour. The letter will be published in next week's Journal.

FLAGSTAFF.-It is understood that a cablegram has been received, FLAGSTAFF.—It is understood that a capiegram has been received, to the effect that in the last month's working 870 tons of ore were mined, netting the company \$15,000; that the new tramway from the mine to the railway is completed; and that the saving in freight will be 10s, per ton. The ore is improving, and everything going on satisfactorily.

TECOMA.-The work at this mine, which has been standing idle TROMA.—The work at this mine, which has been standing idle for so long past, has been recently re-commenced, under the sole control of the debenture-holders, and a sample lot of 10 tons of ore has been shipped to Salt Lake, and realised \$350. The Salt Lake agent writes very hopefully of the prospects.

Professor John Morris, who for more than twenty years has held the chair of geology and mineralogy at University College, has resigned his appointment. Two gentlemen have announced themselves as candidates for the vacant ch. ir—the Rev. T. G. Bonney, Fellow of St. John's College, Cambridge, and Professor H. G. Seeley, of King's College, who was for many years associated at Comof King's College, who was for many years associated at Cambridge with the late Professor Sedgwick.

ZINC ORES.

ARMAND FALLIZE, INGENIEUR-CIVIL, A LIEGE (BELGIUM

1.-CARBONATED AND OXYDED ZINC ORES (CALAMINE, &c. 2.—ZINC AND LEAD ORES MIXED TOGETHER, BUT DRESS ABLE KINDS ONLY

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LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, HARD LEAD, BRASS SLAGS AND ASHIS, COPPER REGULUS, MATTE, SCORIA, TIN ASHES, TERNE ASHES, &c., and MIXED ORES or REFUSE, containing LEAD, COPPER, TIN, or ANTIMONY.

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NVESTMENTS.—THE MOST SECURE are also the SAFEST for SPECULATION, affording ample margin for profits each account, butlay small; gains frequently large by realising on favourable markets (enclose tamp). Railways, Banks, and other Sound Investments, Mines, &c., for fort Apply to Messrs. Hume and Co., Crosby Hall Chambers, London, E.C.

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STRONGLY RECOMMENDED at present price the HULTAFALL LEAD AND BLENDE MINING COMPANY. Copy of a private report will be sent on application, and every information given.

The proximity of Mr. Beard's offices to the Stock Exchange enables him to transact business in Consols, Foreign Stocks, Rails, and other Securities promptly, and the prices of any Stocks or Shares will be forwarded by wire, if desired.

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20 Glearoy, 18, ...

10 Alltami.

20 Hultafall, £5 is, 3d.

15 Bumpfylde, £8. 3d.

25 Least Chance, £1.

26 Combaratin.

27 Clorado, £1 17s. 8d.

28 Clorado, £1 17s. 8d.

29 Cakenore, £2.

20 Marke Valley, 17s. 6d.

20 East Caradon, 7s.

20 Eberhardt, £5 7s. 6d.

30 Eberhardt, £5 7s. 6d.

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Particulars of this very valuable Mine will be found in the Sixt

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"Contains a good deal of information that may be useful at present. Mr. Murchison's theory is briefly that on the average British Lead Mines have less of the lottery element in them than any others, and the figures he gives seem to support that view; a tail events, those interested in this industry will find his facts and observations worth reading."—Times.

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"We have great pleasure in recommending his treatise."—Morning Post,
"We invite capitalists to look into this means of investment."—Money Mark
Review.

Notices to Correspondents.

* Magnineonvenience having arisen in consequence of several of the Number dirfy the past year being out of print, we recommend that the Journal should be £lee. on receipt; it then forms an accumulating useful work of reference.

be A.C. on receipt; it then forms an accumulating useful work of reterence.

Recrived, "W. T. G." (San Francisco) — "C. H. W." (Chile): Postage 10s. 6d.—
"Shareholder" (Van Consols) — "J. M."— "R. N. W."; It has not been received — "P. W."— "T. P. M." (Colliery Managers' Association): The letter has been forwarded; as also that from "J. R."—" Constant Reader" (Carlisle)—
"Enigma" Brighton) — "Shareholder" (Penstruthal) should write to Mr. Ash mead, 64, Cornhill—"J. W. C."—"Shareholder" (Wheal Grenville) should send a copy of his letter to the secretary—"W. G." (Brighton)—The letter from Mr. F. D. Mathews shall appear next week—"Resident" (Brisbane).

The Supplementary Sheet.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with he country bookseller or their London agent.

THE MINING JOURNAL

Bailway and Commercial Gazette.

LONDON, SEPTEMBER 15, 1877.

THE COLLIERY MANAGERS' ASSOCIATION.

The suggestion we threw out some time since as to the formation of an Association of Certificated Colliery Managers, embracing the entire body in England and Wales, we are pleased to find has met with a hearty reception already from many quarters. Of this we are assured from the letters we have received, as well as from the reports forwarded to us from several mining districts by our correspondents. In the West Riding of Yorkshire, in particular, we are informed that the proposition has been heartily welcomed by many of the colliery managers in that important centre of the coal trade, so that what is now looked forward to is the initiative being taken by some persons helonging at the holy, so that companies it one can by some persons belonging to the body, so that communications can at once be opened up with the various colliery districts in the country. Until that is done it appears useless and premature to discuss the formation of the executive, and how the association is to be conducted. Already, however, some of our correspondents have been at the trouble of laying down the main principles on which the association should be based, and the class of persons that have been at the trouble of laying down the main principles on which the association should be based, and the class of persons that should be called upon to be the managers of it. This we know has already done harm, for the great body of colliery managers in the United Kingdom are not likely to be governed by "none but highly scientific and widely reputed men." But we must say that when introducing the subject to the colliery managers our views with respect to the establishing of an association were not that it should be principally a medium for the reading of papers on mining subjects, and so disseminating useful and practical information among such as might be expected to have a less scientific knowledge with respect to mining matters than others. No doubt such a course of reading is all very well in its way, but there are other things which act prejudicially towards the colliery manager in the carrying out of his responsible duties. We quite admit that the success of the Iron and Steel Institute was in a great measure due to the admitted scientific knowledge of the Council. But an Association of Colliery Managers would be a very different thing to such an Institute, which is of a purely scientific and literary character, as the members, for instance, are not subjected in the performance of their ordinary duties to any penal or other laws whatever, whilst the colliery managers have been specially legislated for in the carrying out of their daily work at coal mines. They are liable to fine, imprisonment, deprivation of their certificates, and entire loss of employment in the profession by which they hitherto obtained their livelihood. Such is the result of the Act of 1873, which was brought forward in the interests of the working miners, whose representatives watched the Bill through its every stage, being on the spot ready to suggest to Members of Parliament who were favourable to their tieves points the filterests of the working miners, whose representatives watched the Bill through itsevery stage, being on the spot ready to suggest to Members of Parliament who were favourable to their views points that were in their favour, and those that told against them. The consequence was that the clauses in the Bill relating to colliery managers were not only stringent but more severe than are to be found in the Statute Book with respect to any other body having numbers of workmen under their control. The reason for this was the want of union—of an association—on the part of the colliery numbers of workmen under their control. The reason for this was the want of union—of an association—on the part of the colliery managers, none of whom appear to have been at the trouble of ex amining the Bill in which they were so deeply interested, or taken amining the Bill in which they were so deeply interested, or taken steps to be represented in London, to act as the miners did. If they had done so they would have found Members of Parliament who would have supported them in opposition to ex parte legislation, and to the provisions of a measure which pressed unfairly on one class. In proof of this we need merely look at the clauses with respect to managers. Thus while it takes ten persons, including an Inspector of Mines, three persons employed in and about a mine, and three mining engineers or managers to grant a certificate of competency, it only requires one person—say a County Court Judge—to cancel or suspend the same. From his decision there does not appear to be any appeal to a higher Court, although for other ordinary offences with respect to all persons connected in any way with nary offences with respect to all persons connected in any way with mines, where the penalty inflicted by a Court of Summary Jurisdic-tion exceeds half the maximum sum, or where imprisonment is adjudged, an appeal to Quarter Sessions is allowed. Such anomalies as these surely are of importance to our colliery managers, and might be most beneficially taken up by an association, even in preference at first to purely scientific subjects. By combined action there is very little doubt but a Certificated Colliery Managers' Association would be able to have the present Act greatly modified in some of the clauses, and in future legislation be in a position to see that the interests of the members were not overlooked. By combined action

that the interests of the members were not overlooked.

Looking at the subject in every phase that presents itself, we feel assured that there is no chance for the establishing of a Managers' Association having for its main object the reading of scientific papers, which, in our opinion, should be a subsidiary one. The project as ketched out by us in the original article is the one that has most commended itself to the collery managers. It includes the providing of educational establishments for the children of members where they could be well grounded in a scientific and practical education at a moderate cost, so that they might ably fulfil the duties as the heads of collieries in years to come. Then there is the making provision for members in their old age who have not been able from a variety of circumstances to save sufficient to keep them, as well as for those who by accident may be permanently disabled. Also in case of prosecutions, at times very costly to an individual, the Association would be able to undertake the defence of its members. These are some of the leading features which we feel its members. These are some of the leading features which we feel assured if brought forward as the basis of a Colliery Manager.' Association would attract a majority of our managers to it, whilsta purely scientific association would meet with little or no support, seeing that there are a good many such already in existence. It is seeing that there are a good many such already in existence. It is scarcely worth while at present going into the question of the executive of an association not yet started, but the members should be good practical men of business, taken from different districts, to be assisted by small local committees. Meetings of the executing the held yearly or half-yearly, or there might be a general gathering. At all events, local committees might send delegates to assist in the general work of the Congress. By some such system we might have in connection with our colliery menagers one of the we might have in connection with our colliery managers one of the most powerful associated bodies in the kingdom, not only pecu-niarily and numerically, but in science and ability as well, and cal-culated to do a great deal of good. Such an association would not only lead to the members having a more independent position than at present by the protection it could afford them, but would cause them to be much better respected than they are in many lo-

to the proposed association will be satisfied to leave the work in other hands, without needless criticism. Suggestions of a practical character, with the object of as-isting the promoters, we have no doubt will be gladly received. We, therefore, hope before long to be able to announce that the attempt to form a Certificated Colliery Managers' Association has been a marked success

OUR RAILWAY IRON ABROAD.

OUR RAILWAY IRON ABROAD.

As our readers are aware, there has been some improvement recently in the external demand for our railway iron, the exports to various foreign countries and British colonies in the first eight months of this year having amounted to 323,628 tons, as compared with 274,233 tons in the corresponding period of 1875. The exports of August presented, however, a certain languor, the shipments of that month having been 42,773 tons, as compared with 50,906 tons in August, 1876, and 61,078 tons in August, 1875. A sharp decline in the exports of our railway materied to Russia—from 20,092 tons in August, 1875, to 14,052 tons in August, 1876, and 8086 tons in August, 1875, to 14,052 tons in August, 1876, and 8086 tons in August, 1875, to 14,052 tons in August, 1876, and solvenment sof August. Railway enterprise in Russia is, of course, very greatly dependent upon the Russian Government; and as the Russian Government has, unfortunately, its hands full just now with other matters, the work of railway development in the vast dominions of the Czar has sustained a certain check. In the American demand for our rails we can, unfortunately, discover no improve ment. The Americans appear to be absorbing our rails in even more infinitesimal quantities than ever. In August, 1875, for instance, we only sent the United States 152 tons of our rails. This was bad enough, but in August, 1876, the exports in the same direction declined to the still scantier total of 29 tons, whilst in August, 1877. we only sent the United States 152 tons of our rails. This was bad enough, but in August, 1876, the exports in the same direction declined to the still scantier total of 29 tons, whilst in August, 1877, they receded further to 11 tons. The recent terrible labour riots, the crude ideas prevailing in the United States upon the question of capital and labour, and the want of good faith on the part of the Governments of several more or less important States, are all calculated to weaken credit in the United States; and, of course, anything which weakens credit weakens also the demand for rails, although the great stumbling block in the paths of our ironmasters when they endeavour to do business across the Atlantic is the remarkable development of American metallurgical industry during markable development of American metallurgical industry during

markable development of American metallurgical industry during the last ten years.

The South American demand for our rails continues to reflect the effects of the weakening of American credit by reason of the defaults of Peru, Uruguay, Bolivia, Paraguay, Costa Rica, and one or two other South American communities. Brazil still maintains her credit and her good name, and we are still sending accordingly substantial quantities of rails to the great South American empire. But to other parts of South America our railway iron exports have nearly ceased. This will be seen on an examination of our shipments of iron to South American countries during the first eight months of the last three years: months of the last three years

1875. 6,518 11,789 13,935Tons 11,694 1,769 2,436 32,233 19,721

Chili, it should be observed, has not yet defaulted upon her bonds. chili, it should be observed, has not yet defaulted upon her bonds, but Chili is pursuing a policy of extreme caution in the matter of railway development; and, accordingly, our shipments of railway iron to that Republic present scarcely a vestige of the importance which they formerly possessed. The most hopeful feature in our external railway iron trade just now is the steady demand which is noticeable upon Indian and Australian account. Indian railways are proving more and more financially successful, and the Indian Garcannest appreciates the value of railway compunication more are proving more and more financially successful, and the Indian Government appreciates the value of railway communication more and more, and is beginning to show itself in earnest in regard to the construction of State lines. As for the Australian colonies, they appear just now to be the most prosper us quarter of the world; and, as population accumulates at the Antipodes, it is not surprising that the work of Antipodean railway construction should be prosecuted with vigour. cuted with vigour.

COLLIERS, AND THEIR WAGES.

COLLIERS, AND THEIR WAGES.

In several districts at the present time there is some excitement with respect to a proposal made by the colliery owners that their men shall submit to a small reduction of wages. This is more particularly the case in South Yorkshire and North Derbyshire. For some months past masters have been waiting patiently in expectation that there would be a marked change for the better in the iron trade, which is the only thing that could give an appreciable impetus to the consumption of coal, but this has not taken place, and appears almost as far off as ever. Such being the case, it is certainly only what might be expected that the proprietors of mines, who have kept them going without any benefit to themselves in the shape of profit, but entirely to the advantage of the men, should ask the latter to share with them to a small extent the burden which the latter to share with them to a small extent the burden which they had so long borns by keeping their pits going. But even the concession of 5 per cen', was refused; had it been conceded the wages would then have been exactly what they were in 1871, before the price of coal and the advance of miners' wages took place, consequent on the fears of the public that coal was going to be scarce. The men are, consequently, now better off by 5 per cent, than they ware thon, whilst the masters are just the reverse for since 1871. The men are, consequently, now better off by 5 per cent, than they were then, whilst the masters are just the reverse, for since 1871 the Mines Regulation Act has come into operation, which is equal to a tax of from 1s. to 1s. 6d, for every ton of coal raised. The price of coal, too, at the present time is as low now as it was in the year named, whilst all the requirements for the working of mines, as well as the carriage rate, are considerably higher. But we are told by the leaders of the miners that trade has greatly improved, and that prices of coal are such as to pay a fair profit to our colliery owners. So far from this being the case, we have been told by some very large owners that it is as much as they can do to prevent an actual loss on the working, and that coal is now lower than it was last year. This is shown in the Board of Trade returns, for with a deficit in our exports during the present year to the end of August as year. This is shown in the Board of Trade returns, for with a deficit in our exports during the present year to the end of August, as compared with the same period of last year, we find that the average value was fully ls. per ton l-s in 1877 than for the same months of 1876. We have another illustration of this in the report of the Thorp's Gawber Hall Colliery Company, at the meeting held on Tuesday last. In that report it was stated that the average price of the coal raised at the pits for the half-year ending June. 1876, was 7s. 3d. per ton, for the following or Christmas half-year 6s. 5d., and for the half-year ending June last it was within a fraction of 5s 103d, per ton, showing a diff-rence in favour of the summer half-year of 1876 against that of 1877 of 1s. 4½d, per ton, in itself a very large profit indeed. At the meeting alluded to the gentleman who occupied the chair said he did not believe in a reduction of wages, as they were at present as low as in 1871. But this we have shown is not the case, for the men admit that they are better off by at is not the case, for the men admit that they are better off by at least 5 per cent. Deploring the dull state of trade and the low prices which prevailed, the Chairman further said he thought the remedy lay in a combination of men and masters to keep up prices. Now, there is no greater fallacy than to suppose that any combina-tion could be formed by which the price of coal could be kept up

tion could be formed by which the price of coal could be kept up beyond a certain point, or to suppose that all the colliery owners would agree to such a suicidal policy.

Our exports of coal are now about one-tenth of all that is raised, and supposing it was agreed that only half the usual quantity was sent out of the country, what would be the result? Why, we should be doing what the German colliery-owners would very much like, and we should lose a very large portion of our present continental trade, which is only now held owing to our proprietors of mines selling very low, without thinking of profit, in the expectation of a brighter future. Limited production for the purpose of increasing the price would not answer or last a fortnight if attempted, and at present by the protection it could afford them, but would cause them to be much better respected than they are in many localities. One thing however, must be guarded against at the outset —a want of unanimity on the part of those who do not intend to belong hand, whilst it is to hoped that those who do not intend to belong more harm to the coal trade than anything else, and the depression

which has prevailed for some time is caused by the many severy heavy sums given for going concerns, which, was no for prices of coal, it is simply impossible to make pay. We have he prices of coal, it is simply impossible to make pay. We have he prices of coal, it is simply impossible to make pay. We have he instances where more than 200,000/. have been paid for a soft which shortly before was purchased for less than 40,000, and ever we may sympathise with the duped, we certainly cannow the whole country should be called up to reimbure the their folly. But were production limited the result would be limitation of consumption, as has been the case more parties in London since 1872. Before then it was laid down that the sumption of coal increased part passu with that of population such has not turned out to be case.

Turning back, then, to the wages question, and the present tion of our colliery-owners we have shown that the price of on now the same as it was in 1871, whilst wages are 5 per cent, he turned out to be case.

Turning back, then, to the wages question, and the present tion of our colliery-owners we have shown that the price of or now the same as it was in 1871, whilst wages are 5 per cent, he and if we look to the London trade we find that the railway nearly from South Yorkshire to the Metropolis—was never high serious item the colliery owner has to bear with; it is at least per ton more than is charged for coal taken by serow steams the Tyne to the Thames.

We think we have shown that the present position of our editions the store of the present position of our editions the content of the present position of our editions of the present payed to the theorem of the present position of ou

We think we have shown that the present position of our of owners is far from being so good as it was in 1871. and we, then consider it the duty of the workmen to relieve them in every they can for their mutual benefit in the future.

CORNISH MINES, AND CORNISH MINERS.

CORNISH MINES, AND CORNISH MINERS.

During the past few months the Government Inspector of Miferous Mines for Cornwall and adjoining districts—Dr. Oth Le Neve Foster—has contributed to various scientific social Cornwall a series of papers of great value and utility to preminers, and as these have now been printed in pamphlet form probable that they will be still more generally brought to the of those for whom they are intended. First, there are the gestions for the Formation of a Minera' Permanent Club and Society for Cornwall and Devon," by Dr. Foster and Mr. Wa. Pike, and although the paper was fully referred to at the it was read before the Mining Institute of Cornwall, it may amentioned that the suggestions made are so important that should not be permitted to pass by unnoticed. The defects of any stem at present prevailing in Cornwall and Devon were are pointed out—there is no provision for widows, orphans, or degerelatives of persons killed by accident; a man disabled by accides is "hurt pay" if the mine wherein he met with the acceases to be worked; there is no provision for sickness; and when the mine stops the adventurers put the balance of the money (which is as much the men's property as any other patheir hard-earned wages) into their own pockets. The Insperent hard-earned wages) into their own pockets. The Insperent how that there are 15,000 males above 16 employed (Cornwall and Devon mines, and that these subscribe about per annum as club money, and Dr. Foster and Mr. Pier har mated that by increasing the levy on the men from 6d, per month there could be provided pay, pension to widows and orphans, pension to members of isabled by accident, and, possibly, pension to aged and members. There is no project which we would more readity occate than this, provided anything like an active commit formed, and there can be no doubt that great advantage would to the mining community.

to the mining community.

The description of a deposit of tin at the Park of Mines, counted by Dr. Foster to the Miners' Association of Comwal buted by Dr. Foster to the Miners' Association of Comwal Devon, contains some very interesting information. He at that the riches of the Park of Mines have been derived from appear to be lateral offshoots of the north and south veina, the proximity of the little strings or quartz veins traversing killas lenticular masses of tinstone occur interposed betwee planes of bedding of the killas. Deposits of this kind when nearly horizontal would be called in Cornwall floors, and the respond in some measure to the flats of the North of England the present instance, however, as the dip is generally from respond in some measure to the flats of the North of Englan the present instance, however, as the dip is generally from 70°, the tinny layers are called by some people east and wast But this term is not very appropriate, as the little lenticular of tinstone are generally very short, and when they cease all transfers of the value of the description.

Reference may next be make to Dr. Fostren's "Remarks of the Royal Geographical Society of Cornwall. These remays be regarded as a continuation of those of the late Mr.W. HENWOOD, and are of great value to practical men. These

HENWOOD, and are of great value to practical men. Thes he observes that can be seen at low tide on the western ide Cligga promontory is one of the most remarkable in the cand, of course, attracted the attention of geologists many set and has continued to do so ever since. Dr. Forrar has no best according to the continued to do so ever since. and has continued to do so ever since. Dr. Foster has no besin calling it one of the finest in the county of Cornwall, and is he doubts if any country in the world can exhibit a section full of interest to the student of tin lodes. He suppose that to have been once in a soft state, and whilst in that could have broken through the killas. As it cooled it contracte, least series of small fissures; these formed channels for vapour solutions proceeding from below, which not only deposit minerals—quartz, caseterite, &c.—in the open cracks, but a composed the boundary walls. The granite near the fissure totally changed, and converted into greisen, whilst a little from them the felspar was simply decomposed, and alters kaolin. We thus get greisen walls to each veln, and decongranite between the greisen walls of two adjacent veins. I lieves that the phenomena observed at Cligga have not previously the manufactured in this manner.

grante between the greisen waits of two adjacatives that the phenomena observed at Cligga have not particle been explained in this manner.

The two remaining pamphl-ts which will be mentioned obtief papers read before the Mineralogical Society—the one Some New Mineral Localities in Cornwall and Devon; the "A Defence of Turner's Method of Detecting Boracic Acid," former he records the finding of apatite at Wheal Kitty (St. A bismuthine at Penhalls, chiastolite at Bosworgey Mine, in St. and fluor-spar, leucopyrite, mispickel, molyidenite, shelin tourmaline in new localities. In connection with the latter he observes that the green peach of the Cornish tin mine doubtedly chlorite; but the so-called blue peach which is so-constituent of the tin lodes of such mines as Dolcaah, Cook chen, Carn Brea, West Basset, Phænix, and many others, isplied to blue peach he has tested by Turner's method gives of the presence of boron. Dr. Foster does not agree with Chapman that with borate of soda Turner's test gives unstillicates, colour the flame as well per se as with Turner's flux can be no question that except with regard to the primary every written description of a colour, whether of a flame of every written description of a colour, whether of a flame of every written description of a colour, whether of a flame of every written description of a colour, whether of a flame of every written description of a colour, whether of a flame of every written description of a colour, whether of a flame of the colour colour and became the colour and benefit the colour and the colour and benefit the colour and benefit the colour and benefit the colour and the colour an silicates, colour the flame as well per se as with Turner flut can be no question that except with regard to the primary every written description of a colour, whether of a flame or is most unreliable, if not altogether valueless, and house it many of the most celebrated chemists and mineralogi-satulittle importance to blowpipe tests, except as affording a redication as to the subsequent processes which it is most de to apply to obtain the desired results. Although blow, per is, doubtless, useful in certain cases, it appears to be an evalue of which has been much over estimated in the attempts it to uses for which it was not originally intended.

MINERS' ASSOCIATION OF CORNWALL AND DEVON .- It has MINERS' ASSOCIATION OF CORNWALL AND DEVOKAbeen announced that the Council have this year awarded to
Journal Prizes for progress in the study of the Principles
to Mr. William Thomas of the Camborne Class; Inorganic
to Mr. J. W. Avery of the Royal Cornwall Geological Muse
to Mr. J. W. Avery of the Royal Cornwall Geological Muse
to Mr. J. W. Avery of the Royal Cornwall Geology to
Class, taught by Mr. A. K. Barnett, F.G.S.; Geology to
T. Davies of the St. Agnes Class; and Mineralogy to
Beringer of the Redruth Class. We are requested to add
Beringer has also been fortunate enough to obtain one of

art GOLD Property of the himself from 1863.

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sah coal nof Hanley at the Royal School of Mines, entitling him to 50%. per

INSPECTION OF COAL MINES.—The assistant-inmount inspection of Coal Mines.—The assistant-in-photometric for which a vacancy was created by the promotion of the form of the office of Chief Inspector for the District dath of Mr. Lionel Brough, has been given to Mr. R. Donald this reported to have received a sound education both prac-tal scientifically as a mining engineer.

sentifically as a mining engineer.

scientifically as a valuable paper on recent gold are column we publish a valuable paper on recent gold are compactly as a surface of the mining of the British Association, and in connection with sing of the mining of the

MINIS IN CHILL.—The placer mines at Catapilco, Chili, Mining in Chill.—The placer mines at Catapilco, Chili, said to La Liqua Gold Mining Company of New York, and expaning to erect large and expensive hydraulic works, eviant tests the gravel deposits at Catapilco average 50 c. 140-horse power engine will be employed to pump the few Catapilco Lake to an elevation of 450 ft., where over it galoss of water will be deposited in a reservoir every from this reservoir two 15-in. pipes will supply four of miss. The sluices are to be paved or lined with old rail. Wall the works are to be first-class in every particular, even miss a "close corporation," formed principally of spitalists, who have employed an experienced Californian is miss to superintend their works in Chili.

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rded the ciples of ganic Che Museum y to Mr. to add the contractors and the contractors are to the contractors and the contractors are contractors and the contractors are contractors and the contractors are contractors are

and IRON IN THE UNITED STATES.—The market for pigspeciated no very material change at Philadelphia; at the
spices are steady, and the demand has in some directions
for more setive. Business in steel rails has continued dull
set Philadelphia, and for some time past there have been
figical importance. Prices have been reduced nearly
in bit of this decline there has been rather a stronger feelset displayed have been making deliveries at dispects. in high this decline there has been rather a stronger feeling of the mills have been making deliveries at distant strices ranging from \$47 to \$48 per ton, that is at about lighten currency at the mills. With prospects of a larger impossibly some slight addition to the cost of production, and disposed to make concessions from the reduced quoties and the property of and two or three important contracts have been closed shafewdays. The bar-iron trade has ruled exceptionally Riddsphia, and prices have been rather weak and irre-imper of coal miners in the Monongubela Valley have whater a strike, but only at an advance of wages, a of col to consumers is accordingly from ‡ cent to 1 co dligher than it was at the corresponding date of 1876.

MY FROM NORTH AND SOUTH STAFFORDSHIRE.

MERON NORTH AND SOUTH STAFFORDSHIRE.

L-Orders at the mills and forges which turn out highmer airly steady for dockyard and engineering purposes.

More parly all classes of inferior iron is, however, very
Juception be had to galvanising sheets, which are being
italisable freedom for the colonies. The plate-mills are
unto new business. Wire and nail rods, thin sheets, and
yes amongst the requirements of the market just now,
invasion quotations for best iron are firm. Unmarked
mencely affected in price, makers being generally strong
which prevailed before the drop, but there are instances in
objectifications may be placed at somewhat within preme. The demand for pigs is not conspicuously improved. may be placed at somewhat within premay be made and some placed at somewhat within premay be made and some placed at som

t Hednesford belonging to the West Cannock Colliery now closely sealed up, with the object of extinguish-lie which some three weeks ago broke out in No. 1 and which since that time has communicated itself to seath, and is now it is feared raging flercely. Previous leig shut down, Mr. Pease (the certified manager), the maser, and two overmen who were in the workings takes the maser. to prevent the spread of the fire, had a narrow A rery violent explosion occurred, carrying them things, and making it imperative for them to travel uld reach a current of freshair. Fortunately

which but slight hurt. Waldron and Ashley, Old Hill, is althoutslight hurt. Waldron and Ashley, Old Hill, is although the intrusion of air, as a fire is raging below the londay morning the menon going to work discovered at an efforts were made to save the horses and tools, it is animals were found to be suffocated, and the heat that harmit of an entrance into the workings to secure the animals were found to be suffocated, and the permit of an entrance into the workings to secure

Ken has resigned his seat as a director of the Church-gry Company (Limited), Oldbury, and of the Whitehall seary, Cradley, of both of which companies he was lot taking his seat at the board of the Sandwell Park seary (Limited). West Branchish to which he has been (Limited), West Bromwich, to which he has been

baffordshire things remain as last reported. Finished are comparatively scarce, and sales of pig are not numerable the output of coal is limited there is an abundant had been been discovered at the Great Fenton coal has been discovered at the Great Fenton

assertion which has recently been made by Dr. Kenealy, when addressing his constituents in North Staffordshire, that "the great majority of manufacturers, capitalists, and employers of this country kept a double set of books" in order to decrive the officials in cases where disputes were referred to arbitration and conciliation. On Monday the colliers passed a resolution expressing the opinion that hearts of conciliation and arbitration are successful. boards of conciliation and arbitration were the proper tribunals for the settlement of wages disputes, that Dr. Kenealy had told an un-qualified and unmitigated falsehood, and calling upon him to prove qualified and u

REPORT FROM CORNWALL.

REPORT FROM CORNWALL.

Sept. 13.—There is little to tell beyond the same old story. Now and then we do get a transient gleam of sunlight—a ray of hope, but it is very faint, very flickering, and it speedily disappears. Not that prospects are any worse than they were in actual past, but that it is worse in one sense to have to report that they are no better. Several of the mines in the West are reducing their strength. At East Pool on Saturday 65 men were discharged, the committee having decided to suspened the workings in certain parts of the mine which were not yielding a profit. It is to be regretted that men are thrown out of employment, but in the precent low prices of tin, copper, and arsenic it is highly important that the returns from every stope and tribute pitch should be ascertained with exactness, and no money thrown away that may be saved. This has been done in East Pool thoroughly, and hence the discharges. A large number of men were also discharged from West Basset Mine on Saturday. It will be difficult for these men to find employment in Cornwall, but some of the Welsh lead mines are increasing their hands instead of diminishing them, and at the Assheton Mines, in Carnarvonshire, it is stated that from 50 to 150 miners may find employment at much higher wages than are paid in Cornwall.

The "revelations" at Carn Brea and Tincroft have had the usual fate of a nine days' wonder. They were, indeed, very open secrets, for everybody knew—in fact, the accounts themselves clearly showed it—that the costs were considerably behind, and the only question was what the amount might be. Now we have the whole of the figures it is clear that, balancing assets against liabilities, the mines are perfectly solvent, and from the reports on their condition it is clear also that they can not only clear the way, but retrieve the past. However, the time had certainly come for the old fashioned system to be adapted to the changed conditions of the time. When the machinery of mines was less costly than it now is, there c

meeting. At present it is far better to keep the current account separate from the capital account, and so modify the Cost-book System accordingly. This will now be done in Carn Brea and Tincroft. The adventurers will reap their reward in the increased price of their shares when these come to represent not merely the prospects

of the mines, but the plant likewise.

We certainly looked for some more definite information respecting the comparative merits of what we must call the rival boring machines the comparative merits of what we must call the rival boring machines now working at Dolcoath and Carn Brea, as the result of the meeting of the Miners' Association. At the previous meeting Capt, Josiah Thomas gave some interesting and valuable particulars concerning the Barrow borers. At the recent meeting Capt, Teague, jun., stated that the Beaumont drill was doing excellent work, and that he did not believe the time would ever come when it would be given up in Carn Brea. But that was really all that we learnt, with the single exception of the statement of M. Moissenet, who has seen them both at work, that while the Barrow borer was very handy and portable the Beaumont borer was really a tunnelling machine. That both machines, however, work very much faster than hand labour has been abundantly proved, and we have it positively stated that the Barrow effects a considerable saving of cost. Nobody except the proprietors of the Beaumont appears to know what the working expenses of that machine are, but as the owners are quite ready to contract at reasonable rates we may take it for grantel that here, too, a considerable saving in cost over hand labour is effected. The reason why the Beaumont has made such remarkable progress is clear enough. Instead of one machine being worked in an end it reason why the Deadmont has made such remarkable progress is clear enough. Instead of one machine being worked in an end it is being worked in sets of four, which, of course, should give very nearly, if not quite, a fourfold speed of driving. Now, the McKean drill is to be put to work in the same district, and we should not be surprised to see the Darlington, which Mr. Taylor has found to answer so admirably in his Welsh mines, also in operation in Cornzell ere.

be surprised to see the Darington, which Mr. Taylor has found to answer so admirably in his Welsh mines, also in operation in Cornwall ere long.

Upon the successful introduction of the mechanical borer on the one hand, and the improvement of dressing operations on the other, the whole future of Cornish mining now depends. One problem is solved, and the other is in a fair way to be. Our belief with regard to the boring machines is that by-and-bye it will be found advisable not to use one kind only; but that the heavier and more powerful machines will be found best adapted for sinking shafts, driving cross-cuts, and other similarly heavy work, and that the lighter and handier machines will be found best adapted for actual operations in the "exploitation" of the lode. As to dressing, there can be no question that wonderful improvements have been introduced of late years, and that a very remarkable amount of success has been reached in some cases, as for example by Capt. Williams at Wheal E iza, where the cost of tin dressing has been reduced to a minimum, and waste almost wholly prevented. So, too, there have been great improvements of late in mechanical jigging, as at South Chiverton, or at Devon Great Consols, where perhaps jigging is conducted on the most complete and successful plan in the West. What we want is a system of dressing that shall be as purely automatic as possible, and that shall be as economical of material as it is of labour—the greatest amount of ore at the least possible cost. By and-bye we doubt not the west system of dressing of mixed low-produce ores will be successfully worked. Hitherto it has never had a fair chance, but has always been overweighted by financial difficulty.

There is certainly no man in mining circles more plucky than Mr. Rule. He hits all round with an impartiality and good will that is perfectly delightful to contemplate. Merchants, managers, "owners' account men," engineers, all have had it in turn and now he is down on the smelters, whom, in effect, he accuses of tha

—"He had lately seen a parcel of 10 tons of tin that had been sold for 37/. a ton at 60s. standards, the produce of which was 13½, but the returning charges (1½ per cent.) of the smelters would reduce the returning charges (1½ per cent.) of the smelters would reduce this produce to 12½, or equal to giving 5s. per ton above the standards of the day. That parcel of tin would realise 370%, but supposing they smelted their own tin, still making a produce of 13½, they could produce, with the parcel, 6 tons 15 cwts, of metal, which at (say) 70% at on, would realise 472% 10s., instead of 370%. Now, the smelters allowed 3 lbs. on every cwt. for wasts, and on a parcel of 10 tons this would amount to a reduction of 5 cwts, 1 qr. 12 lb., which, continuing at 13½ produce, would yield 3 cwts, 2 qrs. of metal, realising, at 70% a ton, 12% 5s., raising the amount they actually obtained on a 10-ton parcel to 484% 15s., or a difference on what they paid the miner and what they themselves obtained of 114%, 15s. For argument sake he would allow the liberal rate of 5 per cent, for brokerage, discount, and railway carriage—this was 1 per cent. over the real rate—and this would be a deduction of 24%, 5s, from their profit. He, therefore, thought it clear that on a parcel of 10 tons of tin the smelters reaped a profit of 90% 10s., out 241. 5s. from their profit. He, therefore, thought it clear that on a parcel of 10 tons of tin the smelters reaped a profit of 90%, 10s., out of which they had simply to pay the cost of smelting."

It is easy to see what the remedy for this is. Heaven helps those only who help themselves, and instead of waiting for the smelters who re longer anion the control of the market, which they did

-who no longer enjoy the control of the market, which they did before the introduction of foreign tin broke up the Cornish mono-poly—to give more money the mines had better smelt the tin for themselves. This has been suggested over and over again, but nothemselves. This has been suggested over and over again, but no-body seems inclined to move in the matter. Of course, the real difficulty is that the smelters are merchants as well as smelters, and

that the miners would have to turn merchants too, but that certainly

that the miners would have to turn merchants too, but that certainly need not be insuperable. There is merely enough business capacity in Cornish mine management to grapple with this. There certainly must be some profit in smelting, and perhaps if the experiment is once tried it will be found out what that profit is, and whether, apart from the speculations of the market, it is worth going for.

Dr. Foster has reprinted several of his admirable papers on Cornish mining matters read before the Royal Cornwall Geological Society, the Miners' Association, and the Mineralogical Society. They include papers "On the Tin Lodes in the St. Agnes District," "On the Deposits of Tin at Park of Mines and East Wheal Lovell!" On New Mineral Localities in Cornwall and Devon," "A Defence of Turner's Method of Detecting Boracic Acid," and his joint paper with Mr. Pike, "Suggestions for the Formation of a Miners' Permanent Club and Relief Society for Cornwall and Devon."

REPORT FROM THE NORTH OF ENGLAND.

REPORT FROM THE NORTH OF ENGLAND.

Sept. 13.—The attendance on 'Change at this week's pig-iron market showed that a great deal of interest was taken in the course that trade might be expected to follow. It was hardly, however, expected that there would be so animated a condition of things as actually occurred. The tendency of prices was decidedly upwards, No. 3 being quoted at 44s. 6d. to 44s. 9d. per ton, with other brands at corresponding rates, less 1 per cent. commission. A large quantity of iron is now being sent abroad, and this in all probability will account for the change of prices and the rather better demand now current. Experienced buyers are not disposed to believe that the improvement is one of a permanent character. We are now approaching the close of the navigation season, and about this time there is always a tendency towards a rather more active enquiry. In other respects there is no change to speak of, so far as the Pig-Iron Trade is concerned. On the whole, the firms that have favourable contracts on hand may now be making ends fully meet, but the

Iron Trade is concerned. On the whole, the firms that have favourable contracts on hand may now be making ends fully meet, but the best makers are not believed to be doing more.

A meeting of the creditors of Mr. John George Swan, of the Cargo Fleet Ironworks, was held at Middlesborough on Tuesday, when the affairs of the estate were fully taken into consideration. It was decided that a sale should be made to Mr. Swan of the whole of the assats of the joint estates, subject to the secured claims thereon, the

decided that a sale should be made to Mr. Swan of the whole of the assets of the joint estates, subject to the secured claims thereon, the payment of expenses, and the payment to joint creditors of the debtors of a dividend of 10s. in the pound, payable by instalments at intervals over a period of five years.

In the finished iron trade there is no change to record. Everything remains very flat, and the prospects of business are not at all improving. Prices, on the whole, are pretty firm, but it is probably because they cannot very well go any lower without compelling manufacturers to come to an absolute stop. Ship-plates are quoted at 6l. 10s. to 6l. 15s. per ton, and rails at 5l. 15s. to 6l. per ton. Common bars are at 5l. 17s. 6d. to 6l. per ton, and puddled bars 3l. 15s. to 4l. per ton.

In addition to the arrangements for the forthcoming meeting of

3l. 15s. to 4l. per ton.

In addition to the arrangements for the forthcoming meeting of the Iron and Steel Institute, which I was able to announce last week, several others are now completed, which promise to make the gathering still more interesting. It is intended to launch at the Cleveland shipyard on Friday afternoon a vessel of 2200 tons in the presence of as many members of the Institute as care to witness the event. Several other works in the Middlesbroough district heave also have the work again. the event. Several other works in the Middlesborough district have also been thrown open, and altogether the meeting promises to be of a most attractive character so far as fees-side is concerned. The same remark applies to Newcastle, where a large and influential committee has been formed for the reception and entertainment of the Institute.

of the Institute.

There is no change to note in the Coal Trade, which remains very quiscent. The owners of Bearpark Colliery have now arrived at an understanding with the men they were compelled to evict the week before, and there is now a renewal of the status quo. At Ryhope Colliery, on the other hand, the miners still continued their resistance, and the owners have this week been driven to the last resort of ejecting them from their houses. The process of ejectment is going on while I write (Thursday), and the miners and their families are exhibiting a good deal of feeling, although no really serious disturbance has yet taken place.

Engineers on both the Tyne and the Tees are doing a fair stroke of business at present. Some of them have more marine work on hand than they have had for a long time. Messrs. R. and W. Hawthorn have laid off part of their works for repairs. In one or two cases short time is being worked, but this is not the rule.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Sept. 13.—The state of the Iron Trade is not reassuring, for during the last few weeks no orders of any importance have been given out. When requirements are lodged in the district they are generally obliged to be taken at such prices as must leave but a small margin indeed for profit. The works, generally speaking, are slackly employed, and those so long closed do not exhibit the slightest sign of a re-start. The rumour which a short time ago was current as to the probable re-starting of a portion of the Cyfartha Works has, as usual, been proved to be totally devoid of foundation. Clearances during the week have been maintained up to recent averages, being mainly to the Baltic, ports and Brazil. Shipments will shortly be made to Cronstadt. The demand for iron rails does not improve, and prices continue wretchedly low. Bars are still in extremely limited request, and the Belgians are successfully competing with us in this department. The steelworks having received an accession of orders, are tolerably well employed. Tin-plates are still depressed, but it is believed that prices have reached their lowest ebb. The Grangetown Ironworks, Cardiff, are announced for sale.

for sale.

As to the Coal Trade some slight improvement may be noted this week; not in prices, however, for these seem never likely to get better, but shipments foreign do not exhibit that falling off which has for the past few weeks characterised them. There is a slightly enhanced enquiry on foreign account. For steam qualities the demand is moderately good, and house coals are decidedly in better request. Patentfuel is a slow sale. It is stated that the Gellygroes new pits will shortly be re-started, after having been for some time closed. The Barrow-in-Furness Steel Company are still going on with their pits at Brynoethin, near Bridgend, Glamorganshire; a considerable outlay has been made in sinking for the valuable Cribbwr vein, but hitherto without success, although other seams have been come to. The company still "live in hopes" of attaining the seam sought for. In reply to a deputation of colliers employed at the New Rhos Pit, Pengain, who waited on him, Mr. L. Lewis, one the owners, stated that at present the men could not be put on full time, slackness of trade preventing the pit from being worked time, slackness of trade preventing the pit from being worked constantly

From the proceedings at the Great Western Colliery Company's eeting it The shareholders do not seem to be satisfied, judging from remarks made at the meeting, at the way the affairs of this valuable property are carried on. The report of the directors was not adopted, perty are carried on. The report of the directors was not adopted, and a committee was appointed to report to an adjourned meeting. The retiring directors were not re-elected. One of the shareholders, whose remarks were received with cries of "Oh," said he bought shares at 14, and that they were now between 2 and 3. Meetings are being held in the district in favour of Unionism, and the new local association has apparently been firmly established. When will our miners learn wisdom from the past?

No one would stream to detract from the heroism of the Welsh.

No one would attempt to detract from the heroism of the Welsh No one would attempt to detract from the herosan of the weish miners, who acted so bravely at the rescue at the Tynewydd pit, Loaded with honour, still "they are not happy." Some of the rescuers (the miners) have got up an entert-inment, assisted by a select concert party, and have exhibited themselves at Cardiff and Newport, and perhaps are now doing so at other places. This is sufficient to disgust many, and I am not surprised to hear that the Lord Mayor of London on being applied to for his patronage refused. Lord Mayor of London on being applied to for his patronage refused it on the ground that he did not approve of their making such a public exhibition of themselves.

At a meeting of the Severn and Wye Railway and Canal Company

the directors were authorised to borrow, on mortgage debentures, at interest not above 5 per cent. per annum, a sum not exceeding 50,000%. Some 40,000%, of this is to supply the place of money borrowed at a larger rate of interest. A saving will thus beeffected. The Newport Harbour Commission have decided on purchasing

for 2200/, five sixths of the Gridiron property a place now erected by them and used for the purpose of repairing vessels. The principal portion of the property, on which the Commissioners have expended a large amount of mency, is freehold. The purchase is undoubtedly

a wise one.

A collier named Thomas Bale, working at the Bedwellty Pits, has invented a boring machine which can be worked by hydraulic power. The invention is certainly original, and is to be patented at as early a date as possible. The hydraulic power is to be supplied by Mr. Fudgeon, Fenchurch-street, London. The inventor lacks capital, but if the machine does its duty properly it will assuredly commend itself to the attention of many engaged in sinking with interesting and turnelling corrections. ing, mining, and tunnelling operations.

THE TIN-PLATE TRADE .- A shareholder, writing to the South Wales Daily News, says:—A correspondent refers very prominently to the assertion made three years ago by Mr. William Lewis (Lewis Afan), that a box of IC coke tin-plates could be manfactured for 17s. Afan), that a box of IC coke tin-plates could be manfactured for 17s. The conclusion arrived at by your correspondent as to the cost at the present time of a box of tin-plates is in itself erroneous. The majority of makers know to their sorrow that it costs considerably more. Take the relative prices of materials, to say nothing of labour, in 1874 and 1877, and it will be seen how incorrect is the inference that, if IC coke tin-plates can now be manufactured at 17s. per box, they could have been made at the same price in 1874. Coke bars now worth 64. 10s. per ton were worth three years ago 16t, per ton. Tin now worth 65t, per ton was then worth 92t, per ton. Coke now obtainable at 6s, per ton was then worth 10s. 6d. per ton. Castings required for renewals and repairs, now worth on an average 6t. per ton, could not be bought three years ago for less than 10t. per ton, and everything else required in the manufacture of tin-plates was proportionately dearer.

TRADE OF THE TYNE AND WEAR.

TRADE OF THE TYNE AND WEAR.

Sept. 12.—The Coal Trade has been very quiet during the past week, and shipments not so large. The gas coal trade continues good, as contracts have been entered into by the great London companies and others for supplies for the winter, but for other kinds of coal the demand does not come up to the supply. This, of course, causes sales to be pushed at, in many cases, prices which leave no profit. The demand for coke continues fair, and deliveries both inland and into shipping are about the average. The dispute at the Bear Park Colliery, near Durham, has been adjusted, the men having returned to their houses and started work. All the matters in dispute are to be referred to a committee. At Ryhope all efforts to arrive at a settlement have proved abortive, and 29 of the men were again brought before the magistrates at Sunderland on Saturday; arrive at a settlement have proved abortive, and 29 of the men were again brought before the magistrates at Sunderland on Saturday; they were each fined 20s. the charge being having absented themselves from the work without having given 14 days notice. The men now say that the obstacle which prevents an agreement is the refusal of the masters to receive the President of the Miners' Lodge in deputation. Now this President, we understand, is the man who was found guilty of assault and intimidation, and sent to prison, and afterwards an order from the magistrates discharged him from the post of check weighman at the colliery; the masters, therefore, cannot possibly receive him on a deputation, as he has no connection whatever with the works. There is, therefore, a deadlock here, and we may learn from this case that the men can inflict very serious injury on the masters, and in the present state of the law there appears to be little chance of any remedy. The cost of keeping such a work as Ryhope open is, of course, enormous, and the loss will amount to several thousand pounds. The Gosforth Colliery, one of the ollest works on the Tyne, well known as producing a first class house coal, is to be stopped, on account of the state of the trade. All the hands connected with the place, a considerable number, at surface and underground, have received notice in the usual way.

The meeting of the Iron and Steel Institute in Newcastle prousual way.

The meeting of the Iron and Sterl Institute in Newcastle promises to be one of great interest. A large number of members are expected to attend. Original papers of special local interest are to be lead.—1. "On the Geological Features of the Great Northern Coal Field," by Mr. G. C. Greenwell. This eminent mining engineer is a native of Tyneside, and he has lately taken up his residence at Tynemouth, where he will enjoy comparative quiet after a life of unceasing activity.—2. "On the Manufacture of Coke in Relation to unceasing activity.—2. "On the Maoufacture of Coke in Relation to the Iron Trade of the North of England," by Mr. A. L. Steavenson. This gentleman is engaced in the management of extensive collieries and coke works in Durham, so that he is well qualified to treat on this important subject. He published a practical work on mine engineering more than 20 years ago, and this is now one of the best s'andard works on the subject.—3. "On the Separation of Carbon, &c., in the Reflaing and Puddling Furnace, and in the Bessemer Converter," by Mr. I. L. Bell, M.P. Mr. Bell is also a local man, who is well known. He has been the inventor of many important improvements in the manufacture of iron, steel, and chemicals. All the most important works on the Type will be open for the inspection of the members. Amongst them we may mention the Consett Works, the immense works of Sir W. Armstong and Co., at Elswick; Stephenson's and Hawthorn's Works, &c., and they will also have an epi ortunity of seeing the working of the swing bridge on the Type, the largest of the kind in the world.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Sept. 13.—Mining operations in Derbyshire have undergone no change of importance since my last notice. A very fair business has been done in house coal from several of the leading collieries, although less has been done to London from Clay-Cross than usual, whilst an increased tonnage has been sent from Lang'ey Mill, Staveley, and Tibshelf. This is only what might be expected for the time of the year, as consumers will now be inclined to stock their cellars for winter. There has been some notice given at some of the collieries that the men will be expected to accept a reduction of wages to the that the men will be expected to accept a reduction of wages to the extent of 5 per cent, which would be a return to the rates of 1871. The men, however, are not inclined to accept the proposal, and meetings have been held on the subject at Eckington and other places, at which the officials of the Miners' Association have been

present. A steady business has been doing in pig and manufactured iron, considering the general state of the trade of the kingdom. In Sheffield several branches are now more fully employed than In Sarmera several oranges are now more fully employed than they have been, and there is likely to be a busy season for Bessemer rails. American advices are more cheering than for a long time past, the result being that some of the leading cutlery firms have been induced to give orders out more freely. Very little work was done at many of the works yesterday or at the collieries in South Yorkshire, owing to the St. Leger being run for at the racing carnival at Doncaster. The day is almost a general holiday, and thousands, whether in work or to generally manget to reset the most. Owing whether in work or not, generally manage to reach the moor. Owing to the passenger requirements of the Great Northern and Manchester and Sheffield Railway Companies during the race week but little coal is taken away, owing to the want of locomotive power, so that the stoppage of the collieries for two or three days into inconvenience. There appears to have been an improvement generally in the coal trade, as will be seen from the following statement showing in the coal trade, as well be seen from the following statement showing in the coal trade, as well as the coal trade, as well as the coal trade, as well as the coal trade of the weak of the property of the prope detail the coal traffic by railway to London from Yorkshire and Derbyshire. The quantity of coal passing over the various lines of railway to London shows a marked increase during August over the two previous months, an increase which it may be said has been shared in by all the companies. From this it may be assumed that large consumers are now purchasing for winter, and this is certainly what they ought to do, for coal is not likely to be cheaper than it now is during the present year. At the same time there is not much likelihood of it materially advancing, seeing that production is rapidly increasing in almost every district in the kingdom, and that slone will keep down prices. So far, the disputes in the North have been favourable to the inland colliery owners, who have sent 129,220 tons more this year than they did for the same period of 1876, whil-t there was a decrease by sea during the last eight months of 115,496 tons in comparison with the corresponding month

Prices of both seaborne and inland coal have advanced since the early pert of July, so that best Silkstones are now from 23s. to 24s. per ton delivered, whilst thick coal realises from 19s. to 22s. per ton. But it may be said that a great deal of coal is now being sold in London under fictitious names, for we have inland Wallsend sent from the Midland field, and Silkstones that must have waisend sent from the Midland held, and Shikstones that must have been raised some 380 yards above where that well-known seam is generally found, and of course is sold considerably lower than the genuine article. However, the London trade by railway during last month has been most satisfactory so far as sales are concerned, but although merchants have been able to obtain an advance, colliery owners have not been able to get the same, and except in some instances where about 6d, per ton less increase has been obtained, pit prices generally remain without any quotable change worth recordprices generally remain without any quotable change worth recording. Last month the increase over the quantity taken by railway in July was no less than 75,918 tons, equal to 16 per cent. The following figures show the tonnage carried by the various lines during the last three months :-

June-Tons, July-Tons, August-Tons, ... 119,452 ... 115,076 ... 122,179 Ast three months.

Midland...

London and North-Western ...

Great Northern ...

Great Western ...

Great Eastern ...

Other lines ... 97,079 ... 56,991 ... 66,999 ... 42,051 ... 5,245 ... 96,7±1 56,803 62,333 44,028 2,916 54,886

companies, out ask month it carried 3500 tons less from Clay Cross than in July, but there was an increase from Tibshelf of about 2500 tons, as well as from Langley Mill, Stavely, and Riddings, so that of a dozen collieries in Derbyshire that carried 85 7000 tons in July were credited with 91,000 tons in August. The Midland also took an average tonnage from the Oaks, Darfield Main, Lund Hill, and Monk Bretton Collieries in the Barnsley district, and nearly 1000 tons from New Sharlstone and St. John's, in West Yorkshire. The London and North-Westen goes through saveral coal fields, and tons from New Sharlstone and St. John's, in West Yorkshire. The London and North-Westein goes through several coal fields, and takes extensively from South Wales, Lancashire, and Staffordshire, and of late has managed to secure some of the South Yorkshire traffic, the wagons being put on at Guide Bridge by the Manci e ter and Sheffield. There has been a marked improvement in the tonnage of coal sent over the Great Northern last month, and certainly more than was expected, but, singular to say, the greatest increase in South Yorkshire over that line has been from the Mitchell's Main more than was expected, but, singular to say, the greatest increase in South Yorkshire over that line has been from the Mitchell's Main a colliery only recently opened out, and still in the course of development. Lund Hill also shows in improvement, as does Kilnhurst and Darfield. From the principal pits raising the Barnsley there was sent in August 19,800 tons, against 14,900 tons. Of Silkstones more was sent than for several months past, Birley taking the lead, the pits sending away to London alone upwards of 2000 tons a week. Last month the Great Western from eight collieries conveyed 17,000 tons, against 14,000 tons in July. In West Yorkshire trade kept up well, particularly from Sharlstone and St Johns, From four collieries in that district the quantity sent to London was in July 5000 tons, and in August 9600 tons, or nearly double Several of the new collieries are increasing the output for the London market, and amongst the e may be mentioned the Hoyland Silkstone, one of the finest collieries in the West Riding, and which when fully opened out will be able to send 1500 tons of coal to bank daily. The Great Eastern has improved its position during the month, the coal being taken principally from Derbyshire and South Yorkshire. Taking the eight months of the present year it will be seen that so far as the traffic is concerned they contrast favourably with those of last year. The tonnage carried was as follows:—

1876—Tons.

Midland 1878—Tons. 1877—Tons.

Midland 1878—Tons. 1877—Tons. in South Yorkshire over that line has been from the Mitchell's Main

1877—Tons. 985,973 836,581 554,019 169,419 394,977 32,753 14,556 1876 - Tons. 982,063 ... 701,082 ... 626,757 ... Loudon and North Western ... Great Northern ... Great Eastern ... Great Eastern ... 489,419 ... 416,955 ... 27,597 ... 15,184 ... and South Western Other lines

Total... 3,289,057 ... 3,388,278

It will be seen that the Great Northern is still a long way behind, to the serious loss not only of the railway company, but to the colliery owners of South Yorkshire as well, and it is to be hoped that an effort will be made by the directors to give the letters as

owners of South forkshire as well, and it is to be noped that an effort will be made by the directors to give the latter a better opportunity of competing with those in other districts.

The dispute at the Dodworth Silkstone Colliery, near Barnsley, has not as yet been brought to a close. The arbitrators met at Manchester on Tuesday, but of course did not agree. The whole matter will now be decided by the referee, Mr. W. Jeffcock, mining anxinger, of Shefflid. engineer, of Sheffield.

engineer, of Sheffield.

The annual report of the Sheepbridge Coal and Iron Company, whose works are near Chesterfield, after alluding to the depression in the coal and iron industries, styles that the result of the year's working had been a profit of 8804. 14s. 11d., and there was a further sum of 13104. 2s. 91, remaining after the payment of the last dividend. The directors recommend that 10,0004, be transferred from the reserve fund to the profit and loss account and that a furdividend. The directors recommend that 10,000% be transferred from the reserve fund to the profit and loss account, and that a further sum of 8311%. 5s. be divided amongst the shareholders, making a dividend of 5 per cent on the year, and leaving 2993% 17s. 94, to be carried to the next account. The colliery at Newstead has been largely opened out during the year, and is now raising coal at the rate of 100,000 tons yearly, its quality being such that an easy sale is obtained, having regard to the existing depression. Mr. H. W. Gibson, of Stafford, has been appointed to fill the vacancy on the board caused by the death of the late Mr. W. Fowler, of Whittington Hal'.

REPORT FROM THE FOREST OF DEAN.

REPORT FROM THE FOREST OF DEAN.

Sept. 13.—At the recent gale dinner meeting at the Speech House Mr. T. F. Brown, the Crown Gaveller, urged the necessity of reducing the cost of production as to our staple industries, referring, of course, more especially to coal and iron. Of late years frequent reference has been made by the colliers at their meetings to discuss grievances to the waste which occurs at the pits through adopting wrong methods of carrying on the business, and making allowance for misconception and exaggeration, we feel convinced that there is a percentage of truth and fact in their allegations. And it strikes us that the reduction in the cost of carrying on the coal business must come from a careful revision of the methods of working the business, for we feel certain that wages cannot be further reduced without serious injury and suffering to the men. One source of business, for we test certain that wages cannot be nurser reduced without serious injury and suffering to the men. One source of loss to coal proprietors comes from the use of too high carts, so that the "tip" upon the bank for filling into the trucks to send off to the merchants is so great that it smashes up block coal into rubble and lime coal, thereby reducing its value from best prices to rubble and lime coal prices, which makes a difference of from is. 6d. to 4s. or 4s. 6d. per ton. Now, if the carts were constructed as low as possible, so as just to clear the ground, and the banks so adjusted in construction that the shock would be minimum in timing we think that a great waste would be reverted, and a hand

to the inferentials is so great that it sinashes up brock comiting function that the coal prices, which makes, a difference of from 1s. 6d. to 4s. or 4s. 6d. per ton. Now, if the carts were constructed as low as possible, so as just to clear the ground, and the banks so adjusted in construction that the shock would be minimum in tipping, we think that a great waste would be prevented, and a handsome addition to returns from capital invested effected. It is also qually important where screens are used to secure low carts and gentle rais of the coal over the screens when tipped, or even more waste will result. We have seen carts of block coal tipped from high carts with great force, so as to shatter and break up valuable coal into rubble and smiths' coal; in fact, we consider the "stille" fashion of building carts and a screens a most wasteful one. Now, if "a penny saved is a penny gained," the same must apply to the shillings of waste on every ton of coal by the smashing system of high carts, high tips, and high screens.

By carefully considering the methods of getting the coal from the pit into the trucks for the merchants, we are fully persuaded that a great reduction in the coat of production may be effected; and, further, we are satisfied that if rock drills or other auitable machinery were used in pits to get the coal, instead of the pick, which necessarily does too much "chipping" to effect a dislodgment of the pick, which necessarily does too much "chipping" to effect a dislodgment of the pick, which necessarily does too much "chipping" to effect a dislodgment of the pick, which necessarily does too many under-strappers, or subordinate officials, of course, where two men are paid to do one man's work, a saving could be effected. Then the same philosophical and economic principle should be applied to the snire operations of an establishment. Complaints have been made sometimes by colliers as to the waste one casioned by drafting one of them to some necessary department or work. Officials should not be too

reported by us in our last communication has, we think, but we are anxhous for more marked improvement. We recent change in prices. The general meeting appointe Mitchieldean Road line has been put off a few days, home, so that the works are still standing. We hope soon to

IMPORTANT TO STEAM USERS.

Of all the difficulties that steam users have to deal with Of all the difficulties that steam users have to deal with country incrustation in the boiler is certainly the most serio having proved the invariable cause of a great amount of im money, waste of fuel, and extra labour for repairs, as well loss of time and of capital. To avoid this incrustation many positions have been brought before the public, principally America, but none have been fully successful as far as well as a saving of over 250,000% to the manufacturers of Each as a saving of over 250,000% to the manufacturers of Each we are glad, therefore, to hear that the well-known film of Berger Spence and Co., of London, also of Manchester and of gow, have started their extensive works, where they are composition to avoid scaling and incrustation, which the composition to avoid scaling and incrustation, which the

Globe Steam Boiler Powder.

We may say that after examination we have great faith efficacy of their ingredient, and for the benefit of our rad subjoin a few particulars that will show that Messe. Spence and Co. have discovered the right thing. As our are aware, and more especially those who use steam all the in common use contain a large amount of imperceptible in which, by the incessant working of the law of gravitation, it case of boilers precipitated, so forming an incrustation raying to 1 in. of deposit of absorbant congulative matter on the surface of the boiler. This incrustation being a decide in ductor prevents the free transmission of heat from the first which now corcodes or burns away the iron of the boiler by ductor prevents the free transmission of heat from the in which now corrodes or burns away the iron of the boiler by of such incrustation intervening between the boiler. It was, fore, necessary to find an ingredient which would easis as a circulation of the water, sustaining in solution all the imperimpurity which would otherwise form a deposit in the boile ingredient is now found in Mesers. Berger Spence and Cot Steam Boiler Powder, which 'from its solvent properties and machanical action, prevents the subsidence of the sedim matters found in the water. This result being obtained, the ness of the boiler is not augmented, and, therefore, the gas of steam not being interfered with, it is possible to effect a of from 16 to 25 per cent. in fuel alone. Further, the ima and consequently the boiler, necessitates no cleansing. of steam not being interfered with, it is possible to effect a of from 16 to 25 per cent. in fuel alone. Further, the iran and consequently the boiler, necessitates no cleansing. As the composition (201. per ton) is very low indeed, considering vantages which may be derived from its use. It is sufficient solve 11b., more or less, according to the degree of impurity water, per 4-horse power in the feed-water daily.

We may add that the name of Messrs Berger Space and such an influence in chemical matters as to enable them to

We may add that the name of Messrs. Berger Spenes and such an influence in chemical matters as to enable then to in less than three weeks large and important trial orders for mical manufacturers, paper makers, ironfounders, millen refiners, &c.; in short, from nearly every class of steams only in this country, but also on the Continent, and even in We hear also that one of the largest railway companies in the try is to give it a trial; and Messrs. Berger Spence and Confedent that they will sell 200 tons before the end of and we heartily wish them the success they fully deserve for tried and grasped with one of the most serious drawbast steam users have had to contend with.

ARTIFICIAL STONE. - The object of the invention of Mr. W ARTIFICIAL STONE.—The object of the invention of Mr.

of Eastbourne, is to produce a composition or materials
suitable for flooring and other bricks and for paving and tol

For this purpose he employs Portland cement, ground gr

fine shingle or coarse sand, and a pigment or colouring ma

or about the following proportions:—1 of cement, 2 of it

2 to 4 of shingle or sand. To this he adds the required pigm

he then adds water sufficient to make it into a thin past. The

or mould sare then folled there with and in the case for or moulds are then filled therewith, and in the course of a the material becomes set, and in about a day the mould are fit for use. The manufacture may be carried on inte of weather and seasons, and the articles produced are not by weather or frost. By a suitable selection of pigmen Venetian red, when imitation red bricks are desired, yellow or ochre, for imitation white bricks; any desired imitation bricks or tiles can be produced; or instead of acids or other materials may be used for producing the desir

COAL MINING IN AMERICA.—The cal mines of Pennsylv to a great extent the property of railway companies see Great Pennsylvania Company, Philadelphia and Realing. New Jersey, and other lines—of which both bonds and sheld in this country to from ten to twelve millions sed doubts exist of any return from the business of the current of the country to the country to the country to from the second co Nearly all the mines are unwrought at date of the laters the States are not by any means promising localities for miners at present. One Welsh miner named Bratton h taken to work one mine with non-union men. ing to leave the State within 24 hours, but he disinstructions. In consequence, a body of disguised a hills from Wyoming to Bethlehem, where they conce hills from Wyoming to Bethlehem, where they concealed the until an opportunity occurred of murdering Bratton, and succeeded in committing this murder, on August 17, the scattered, and none of the criminals were apprehended tion of the State is very nearly that of civil war. The 60 has called out an army of 8000 men to suppress the insumminers, who will neither work themselves nor allow other take their places. Meantime a number of the mines are and money and time will be wasted in clearing them a Lehigh and some other coal regions have been for a continuous multiple of "Molly Maguires" has not yet restored order, and these persons now rob the farmers under the pretence of the power of the pretence of the help, which, if they do not receive, they contrive to take the fruits of the great Protectionist system in one of States. Winter approaches; the towns could be supplifrom Nova Scotia, and even New Brunswick, where is anthracite coal has recently been met close to the sat; duty placed on importation must add cold to the other the secretary wear and properly level. the poor and unemployed.

AMERICAN MINING.—The present length of the Saint 17,826 ft. The face of the header is in soft length of clay seams, requiring constant and careful timbering. I rate of advance is about 11 ft. per day. The air is of a high temperature, being 97°, but the ventilation is go Burleigh Tunnel now penetrates into Sherman mountain of 2200 ft. and is still being driven in as fast as the Bu compressors and high evaluations middle by skill and the still being driven in as fast as the Bu compressors and high evaluations. compressors and high explosives, guided by skil ompressors and high explosives, guided by skil and e can accomplish the work, which is at the rate of about 2 The holes are driled with double bitted drills from 6 to the boring machinery is run back on the track about 20 blasts exploded. The gases resulting from the combustion of the tunnel than right up at the breast where air is of the tunnel than right up at the breast where air is at the compressors: 20 lodes have already been interest colossal prospecting enterprise, two of which have been to the compressor of the tunnel than right up at the breast where air is at the surface prospecting enterprise, two of which have been to the compressor of the tunnel of the surface, is in the Yellow Jacket Mineral of the tunnel, or 170 ft. below the level of the lowest working perial Mine, which shows the deepest workings of any a lode. It must be borne in mind, however, that the surface is mind.

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ENTLEMAN MIE of STEA Highly satis of A L DEI other WENT act October, to STRATIONS

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TAL COLI SCIENT COLLEGI

SALE. H. E. TAY SSRS. FINANC F. TREG

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21 cwts ... 3640

PARTNERSHIP

TO COLLIERY PROPRIETORS.

MINING ENGINEER, of fifteen years varied as a ACTIVE PARTMERSHIP in an OLD-us for class experience, an ACTIVE PARTMERSHIP in an OLD-us for class experience, and Concern.

INSERT FIRM. Willing to invest in a sound concern.

INSERT FIRM. WILLIAM JOUR AL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR AL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR AL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR ALL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR ALL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR ALL Office, 28, Fleet-street, London, E.C. be set 5, M. MINING JOUR ALL OFFICE, AND MINI

1NTED a DEPUTY UNDERVIEWER, at a LARGE COLLERY, where the Coal is worked on the Long-Wall System. Must come who can speak French preferred. Salary 22 per week. In sight, to a Deputy Underviewer, "on or before October the 20th, and 10 miles. 26, Fleet-street, London.

TIGHAN is open to UNDERTAKE an AGENCY for the Ref STEAM and HOUSE COAL among merchants and shippers in

OTAL SCHOOL OF MINES, DEPARTMENT OF SCIENCE AND ART.

THE TRANSPORT SEVENTH SESSION, 1877-78, which will COMMENCE of Colorer, the following COURSES OF LECTURES and PRACTICAL MELTINGS will be given:—

BINTIONS will be given:

BY E. FRANKLAND, Ph.D., F.R.S.

BY JOHN PERCY, M.D., F.R.S.

BY T. H. HUXLEY, LL.D., F.R.S.

BY T. H. HUXLEY, LL.D., F.R.S.

BY WARRINGTON W. SUYTH, M.A.,

BY T. M. GOODEVE, M.A.

BY FREDERICK GUTHRIE, Ph.D., F.R.S.

BASIGAD DRAWING

BY REV. J. H. EDGAR, M.A.

TOO TO Students desirous of becoming Associates.

TAL COLLEGE OF SCIENCE FOR IRELAND, STEPHEN'S GREEN, DUBLIN. SCIENTIFIC AND TECHNICAL EDUCATION

Liberatory Practice.
THEORETICAL AND PRACTICAL), METALLURGY, &c.—Professo

C.C.S., Mechanics, and Mechanism.—Professor HENNESSY, F.R.S. Geometry, Drawing, Engineering, and Surveying.—Pro

llatruction. 10% COMMENCES on MONDAY, October 1st. se may be obtained on application to the Secretary, Royal College of

may be obtained on appropriate to the free of the free

81 SOUTH JOHN STREET, LIVERPOOL

Purchasers. Nevill, Druce, and Co. Adam Eyton.

Walker, Parker, and Co.

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Sheldon, Bush, and Co.
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ditto
Villiers Spelter Co.
Vivian and Sons.
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SALE, FIFTY VIRNEBERG SHARES .-

W. TREGELLAS, 122. BISHOPSGATE STREET WITHIN, B.C., in all descriptions of Stocks and Shares at close market prices.

I. E. TAYLOR AND CO., 86, LONDON WALL, E.C. 88RS. THORNYCROFT AND CO

LEAD ORES.

BLENDE.

BLACK TIN

COPPER ORES. Sampled Aug. 19, and sold at Swansea, Sept. 11.

ons c. q. lb. Price per ton. Amount. Purchasers 6 17 2 5 ... £36 0 0 ... £247 11 6—Bolitho. 5 6 3 11 ... — ... 192 6 6— ditto

Betts Cove... 85
ditto...... 120
ditto..... 100
ditto..... 76
N. Quebrada.105
ditto.... 105
ditto.... 105
ditto.... 81
ditto.... 81
ditto... 80
Algerian Ore 70
ditto... 69
ditto... 110

ditto. ditto. ditto. ditto. ditto. ditto. ditto.

TOTAL PRODUCE.

\$2,624 7 0 | Cavera Ore ... 259 ... 4

14,030 1 0 | Berelaven Ore. 115 ... 4

3,279 11 6 | Cronebane Ore. 75 ... 5

5,688 10 6 | Copper Ore ... 16

1,186 13 0 | Copper Regulus. 6 ...

PANIES BY WHOM THE ORES WERE PURCHASED.

3640 ...

TOTAL PRODUCE.

Tons. Prod

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COLLEGE SUPPLIES A COMPLETE COURSE OF COLLEGE SUPPLIES AND ASSESSMENT OF COLLEGE SUPPLIES AND ASSESSMENT OF COLLEGE IS GRANTED AND ASSESSMENT OF COLLEGE IS efor Royal Scholarships of the value of £50 each yearly, with free adeling Laboratory Instruction, tenable for two years. Two become a par. They are given to Students who have been a year in the College, sat £10 re and Course, or £10 for all the Courses of each year, with deed Laboratory Practice. PITE GEOMETRY, DRAWING, ENGINEERING, AND SURVEYING.—Pro BOI, C.E., M.R.I.A. HUML PRISICS (THEORETICAL AND PRACTICAL).—Professor BAR-

HIS. F.C.S.

AND MYSERALOGY.—Professor O'REILLY, C.E., M.R.I.A.

1. Polessor LETH ADAMS, M.B., F.R.S.

1. Professor HULL, M.A., F.R.S.

1. Professor HULL, M.A., F.R.S.

1. Selector HULL, M.R.S.

1. Selector HULL, M

ce, and Co

ns, Foster, and Co.

TOTALS AND AVERAGES.

\$\frac{1}{16} \cdots \cdots \cdot \text{Produce}. \text{Prios}. \text{Per unit.} \text{Btand} \text{Btand}

\$\frac{1}{16} \cdots \cdots \cdot \text{11} \cdot \text{11} \cdots \cdots \cdot \text{7} \cdot \cdot \cdot \cdots \cdot \text{11} \cdots \cdot \c

ndrule, at Swansea, September 25.—Betts Cove Ore 1039—Cape Ore Swanta Ore 427—Carracedo Ore 134—Almodovar Ore 120—Portuguese Swant Ore 115—Tan y-Bwich Ore 33—Copper Regulus 8=2748 tons.

MINING SETTS, MACHINERY, AND PLANT,
IN ST. JUST (IN PENWITH), CORNWALL, FOR SALE.

M. R. A. BERRYMAN has been instructed to OFFER FOR
SALE, BY AUCTION, on the Mine, on Monday, the 24th September
next, at noon, as a going concern, all that Mining Adventure called

SPEARN MOOR
(Including SPEARN CONSOLS, with which it has recently been amalgamated),

amaigamated), ituate in the parish of ST. JUST (IN PENWITH), CORNWALL, comprising to SEVERAL SETTS and all the excellent PLANT and MACHINERY thereon,

VIL: :—

ONE 30 in. cylinder STAMPING ENGINE, with new nozzles, two 12 head stamps axles and lifters, one balance bob, and one good 10 ton BOILER.

ONE 24 in. cylinder WHIM ENGINE in good condition. WHIM CAGE, and an excellent BOILER, 9 tons.

ONE 26 in. cylinder (new) PUMPING ENGINE, with balance bob, and one 8 ton BOILER.

ONE 18 in. cylinder WHIM BNGINE, with whim cage, rope, &c., and one Several tons of transvard in a several tons of transvard in a several tons of transvard in a several tons.

25 ton BULLER. Several to a support of the property of the ing tools, &c.

Also, all the TIN LEAVINGS throughout the mine
The setts have about 13 years to expire, and are held upon easy terms. The
water charges are light, and the mine is favourably situated, lying between Be
tallack and Levant Mines, and much of the ground included in the sette remain
unexplored.

nexplored.

For further information and to view, apply to Capt. Bunnerrs, the Manager, on the Mine; Mr. Edward Trythall, the Purser, Penzance; or to the Auctioneer, 28, Clarence-street, Penzance.

Dated 30th August, 1871.

PRELIMINARY ANNOUNCEMENT.

ON THURSDAY, 20TH SEPTEMBER, AT COPPER MINES, GOUROCK, AT TWELVE NOON.

SALE OF HORIZONTAL STEAM ENGINE, CRUSHING MILL, TWO SETS BLEVATORS; GEARING; DRIVING PULLEYS, &c., &c.; FINE AND COARSE SIEVES: WASHING MACHINE; JIGGER MACHINERY; WATER WHEEL; CRUSHING ROLLERS; WINDING DRUM; SPUR and BEYEL WHEELS; QUANTITY of SCRAP IRON; SMITHS' ANVIL; BELLOWS: GRINDSTONE; CRAB WINCH; WOODWORK of OFFICE and SMITHY, &c.; also, PIT HEAD FRAMING, fresh and suitable for re-crection (sold in consequence of the stoppage of the Mines).

M ESSRS. HUTCHISON AND DIXON have received instructions from Messrs. Wm. Henderson and Co., Irvine, TO SELL, as above, at Twelve o'clook.

The MACHINERY was erected new by the Firm at the opening of these Mines a few years ago, and is still in capital order.

COLLIERY IN YORKSHIRE.

THE MALTON COAL COMPANY (LIMITED),
IN LIQUIDATION.

TO BE SOLD, BY PRIVATE TREATY, A VALUABLE COAL FIELD, of about 1100 acres, near WAKEFIELD, with Cottages, Siding, and sundry Plant, &c., held, at a very low royalty, under a lease of which 55 years are unexpired. Dead rent, £1000.

For further particulars, apply to Mr. Lower 1 rther particulars, apply to Mr. John Mather, 12, King-street, Manor to Messrs. Sale, Seddon, and Hilton, Solicitors, 29, Booth street,

SLATE QUARRY.

A GOOD SLATE QUARRY FOR SALE,—
Situated in a FLOURISHING SLATE DISTRICT. Large vein of good
quality and colour. Every convenience. Terms moderate.
Reports and samples forwarded on application to Mr. J. D. JONES, Upper
Glynrhonwy Slate Company, Llauberis, North Wales.

NEW SILVER-LEAD SETT FOR DISPOSAL-Advantages and prospects good; rich district; small capital required for working. In event of a company being formed, the vendors are prepared to take a permanent interest in the same.

Address, "Nemo," 82, Great Portland-street, London, W.

POR SALE. price £3000, VALUABLE RED HEMATITE IRON ORE ROYALTY. The ore is of the highest quality, and has been proved for a distance of a quarter of a mile in a straight line. Formation Limestone, near Coal Measures.

Apply to J. Fletcher Pages, C.E., F.G.S., St. Austell, Cornwall,

OR SALE, at NEW PEMBROKE MINE, CORNWALL,
An excellent 80 in. sylinder PUMPING ENGINE, with FOUR good 12 to
25 in. DRAWING ENGINE, and TWO BOILERS.
TWO SPARE BOILERS.
THREE IRON STAMPS AXLES.
100 fathoms FLAT RODS, 3% inch.
A quantity of EOD PLATES and other MATERIALS.

Apply to Mr. JOHN POLKINGHORNE, PAR OFFICE, PAR STATION.

TO BE LET, ON LEASE, for Twenty-one Years, or such term as may be agreed upon, very valuable MINERAL and COAL MINES, extending over an area of about TWO HUNDRED ACEES, near WREXHAM, in the county of DENBIGH, part of the property known as

THE STANSTY HALL ESTATE,

THE STANSTY HALL ESTATE,

Containing Main, Powell, and Brassy Coal, varying from three to nearly twelve feet, and the Two Yard Coal, and other good and large Seams of Coal near the Westminster and other Collieries, being the richest and most productive mineral properties in Dembighshire.

Proposals for working the whole or any partion of the above premises, not less than fity acres, attaing the minimum or dead rent recompable out of royalties in excess of the sum offered, and stating the amount per foot per statute acre offered to be paid for Main, Powell, Brassy, and Two Yard Coal, also per foot per statute are for all other Seams workable, to be made up to the 24th of September next, to Lady Francox, Elm Park, Merrion, Dublin.

Dated 24th August, 1877.

LEAD MINE NEAR CARSPHAIRN, STEWARTRY OF

TO BE LET, for such number of years as may be agreed

THE WOODHEAD LEAD MINE,
On the CRAIGENGILLAN ESTATE, situated in the parish of CARSPHAIRN
and STEWARTRY OF KIRKCUDBRIGHT.
This Mine was opened in 1838, has been wrought ever since, and has yielded a
large quantity of lead of the finest quality.
The PLANT, MACHINERY, &c., can be had at a valuation.
JAMES M'CALL, at the Mine, will show the underground workings, as also the
plans and sections; and for further particulars application may be made to ALEXANDER M'CUBEN, Solicitor, Ayr: or to Mr. THOMAS SMITH, Land Steward,
Berbeth Mains, Dalmellington, Ayrshire.

TO BE LET. at EAST GREENWICH, with immediate possession, VALUABLE and IMPORTANT BUSINESS PREMISES, covering an area of about three acres, long river frontage, with two jettles, suitable for laying either ships or barges alongside. The buildings are very large and substantially built; there are seven high chirnney shafts and boilers of about 250 horse power already fixed, also some machine tools, &c. The offices are commodious, and have just been entirely renovated and descrated throughout. For full particulars, plans, &c., apply to T. Lawrie, Architect, 4, Queen-street-place, Cannon-street, London.

FOR SALE, —FIFTEEN TONS of an ORE, containing about Apply to James Wyllie, Factor to the Duke of Argyll, Inverary, Argyllshire, N.B.

PUMPING ENGINE ON SALE, 300 H.P., entirely newa Bargain.

Apply,-SUN FOUNDRY, LEEDS.

HYDRAULIC PUMPING ENGINES, TWO, 50 H.P. ENGINES ON SALE-a Bargain. Apply,-SUN FOUNDRY, LEEDS.

FOR SALE, a 14-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, also gear to wind and pump. with link motion reversing gear, also gear to wind and pump. 25-horse power PORTABLE. n 18-horse power VERTICAL STEAM ENGINE, and a 9½ in. cylinder VER

A 25-horse power VERTICAL STEAM ENGLISH, THE STEAM ENGLISH, AND STEAM ENGLISH, and Combined Winding drum.

A 5-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.

A 5-ft. PAN MORTAR MILL, VERTICAL ENGINE, AND BOILER.

Apply to-BARROWS AND STEWART, ENGINEERS, BANBURY. GLASGOW AND THE HIGHLANDS.

POYAL ROUTE VIA CRINAN AND CALEDONIAN CANALS, by ROYAL MAIL STEAMER, "IONA," DAILY, at Seven A.M., and from GREENOOK, at Nine A.M.
See bill, with map and tourist fares, free, at Messrs. Chatto and Windus, Publishers, 74, Piocadilly, London; or by post from David Hutoreson and Co., 119, Hope-street, Glasgow.

MESSES. HARLAND AND CO., STOCK AND SHARE-DEALERS, 33, GREAT ST. HELEN'S, BISHOPSGATE STREET WITHIN, LONDON, E.C.

KIT HILL TUNNEL (LIMITED).

THE SHARES of THIS COMPANY CARRY INTEREST at FIVE PER CENT., in addition to PARTICIPATING in a ROYALTY PAYABLE upon the PROFITS of each LODE CUT by the TUNNEL.

The present price of the £5 shares, with £1 paid up, is 25s.

SHARES may be SOLD or BOUGHT, and full information may be obtained on application to—

pplication to—
EMMENS AND CO., MINING ENGINEERS, 134, PALVIERSTON
BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

PARTNERSHIP.—SAFE AND PROFITABLE INVESTMENT.— Two Gentlemen, who have for upwards of three years been engaged in opening out some VALUABLE MANGANESS PROPERTIES (West of England) have now THREE of these FULLY DEVELOPED, showing extensive lodes of Rich Ore, requiring only additional capital and labour to raise on a large scale, and send to market.

For this purpose, a HALF-SHARE in these properties is OFFERED to ONE or TWO GENTLEMEN, on moderate and advantageous terms. The properties have been recently inspected and most favourably reported on by independent practical men, and are open to the strictest investigation.

Terms and particulars of Mr. GOODWIN, 5, Air-street, Piccadilly, London.

WATER-WHEEL WANTED, from 50 to 60 feet in diameter, with 3% or 4 feet breast, with wrought or cast-fron axle, sockets and segments, and 30 fathoms of 7 inch diameter PUMPS, with 6 inch diameter WINDBORE, DOOR-PIECE, and WINDBORE, DOOR-PIECE, and WINDBORE, DOOR-PIECE, and WINDBORE, DOOR-PIECE, and WINDBORED.

Address, Philip Hawke, The Islay Bilver-lead Mines, Islay, Scotland.

WHEAL NEWTON IS PAYING 80 PER CENT. PER ANNUM.

HOLMBUSH

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"HARES in the ABOVE, and in all other DIVIDEND MINES, may be SOLD or BOUGHT through EMMENS and Co. (Limited), 134, Palmerston Buildings, Bishopsgate-street, London, E.C. THE GOLDEN BALL OF A LIFE-TIME.—

Every £10 outlay, by easy instalments, will realise £50 per annum income INVESTED in a SYNDICATE to form a MERCANTILE PUBLIC COMPANY, to extend the supply, with enormous profits, of a world-wide popular want. Full and interesting particulars of Thos. J. BARNARD, 80, Bishopsgate-street Within, London, E.C.

LOCOMOTIVE TANK ENGINES FOR MAIN LINE TRAFFIC, SHORT LINES COLLIERIES, CONTRACTORS, IRON WORKS, MAN UFACTORIES, &c., from a supericrecification, equal to their first-class Railway Engines, and special? / wapted to harpourves and heavy gradients, may always be had at a short notice from—

MESSRS. BLACK, HAWTHORN, AND CO., LOCOMOTIVE, MARINE, AND STATIONARY ENGINE WORKS, GATESHEAD-ON-TYNE.

T. R. GLOVER.

MINERAL DEALER AND BROKER AND GENERAL FINANCIAL AGENT 2, EXCHANGE STREET EAST, LIVERPOOL.

Mr. E. JACKSON,
Associate of the Royal School of Mines,
ANALYST AND ASSAYER.

or Complete Analyses made of Copper, Silver, Lead, Zine, Tin, and
ASSATING TAUGHT. 106, QUEEN VICTORIA STREET, LONDON, E.C.

EMMENS AND CO. (LIMITED), MINING ENGINEERS AND MANUFACTURING CHEMISTS.

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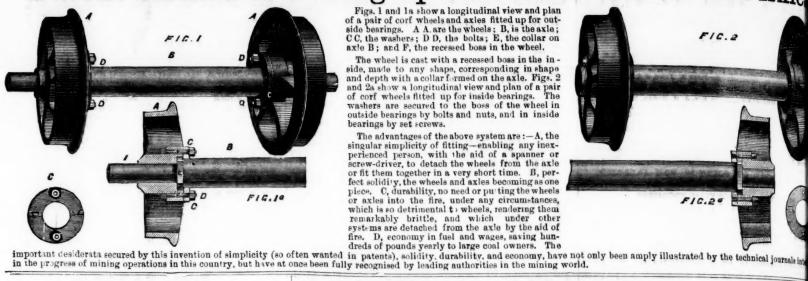
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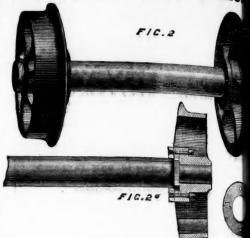
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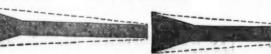


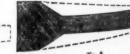
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60000	Providence United, g, It	aly*†	4 0	0 14	"	Sept. 1871
				0 1/		Fully pd.
●3000	Rica, g, Colombia 4 (40)	000 issued:	1 0	0		Fully pd
#2,151,	000 Rio Tinto, c. Hue	000 issued)	1 0 1	0	44	Fully pd.
# 00000	Rossa Grande, q. Brazi	va, Spain** *† (£1 shares)	Stock	59 %	% %	Fully pd. 1
20000	Russia Copper, Orenbu	va, Spain "† (£1 shares) rg and Ufa"†	0 19 (59	07 59	Fully pd. 1
20000	San Pedro, c, Chili*	rg and Ufa*1do*	10 0 0	16	28	July 1872
10000	Silver Plume, s. Colora	do*			1 29 2	Fully pd. 8
30000	Tecoma, s, Utah*	do*	1 0 0	*** 3%	36 3/8	Fully po
20000	Thornhill Reef, g. Aust	ralia* kico*†[10 0 0			Fully pd. 2
43174	United Mexican, s. Me:	rien##*	1 0 0	34	14 34	Fully pd
14000	Utah, g, s-i, Utah*	14	28 15 9			Fully pd. 1
10000	Yorke Peninsula, c. Bor	th Australia	8 0 0	2	176 2	May 1875
40000	Xorke Peninsula, c. Son	ath Australia. th Australia Preference Have made calls since le	1 0 0			Fully pd 15
	4	Have made call Preference	1 0 0	36	28 38	Fully pd.
	,	Have made calls since las	t dividend was	paid 1	% 1	Fully not
				board		pu. 6

FOREIGN AND MISCELLANEOUS STOCKS P.

Argentine, 1868, 6 per cent	FOCKS, BONDS, LOANS, AND TRUSTS Foreign and Col. Gov. Trust, 6 p. ot. 68 71 Do., 5 per cent., 2d issue 50 Do., 6 per cent., 3d issue 52 57 Do., 1872, 4th issue 46 51 Do., 1873, 5th issue 48 53 Peruvian, 1870, 6 per cent 12½ 15; Do., 1872, 5 per cent 12½ 15; Spanish, Quloksilver Mort., 5 p. ot. 95 Spanish, Quloksilver Mort., 5 p. ot. 95 United States Mort., 6 per cent. 97 97	ces.
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NON-DIVIDEND MINES.

ľ		NON-DIVIDEND MINES.	
		Shares. Mines. Paid. Last wk. 40000 Aberdaunant, i, Llanidloes* 1 0 0 1 1 1	
۸.	Last pa Jan. 18 Nov. 18	7800 Alvig. & Burng.,*t, St. Aust	
	June 18 Nov. 18	73 50000 Ballycummisk,* c, Schull	
	Aug. 187 Feb. 187	28000 Belestone, *c., Devon (27,000 fy. pd.) 1 0 0 2	36 34
	Jan. 187 July 187 July 187 Feb. 187	2000 Bodilaris, * l, bl, Denbighshire	1 1% 5 5% 5 175
5	ug. 187 une 187 far. 187	6 6000 Bradwell Moss Rake 1 0 0 1	% 1
A	pr. 187	7 3348 Cargoll, 3-t, Cardiganshire 2 0 0 214 3 10000 Caron, l, Cardigan* 8 9 0 314 3 2000 3 0 0 314 3	214 814
A	lay 1876 ug. 1874 ug. 1877	10000 Central Foxdaie, I, of Man*(2l, sh.) 1	
.0	eb. 1877 ct. 1876 ct. 1872	es vo C Dwytor, c, s-t, Carnaryonah 0 18 9	% % % 15
Ju Fe	ov. 1875 ly 1877 b. 1876	3000 Cwmystwith (New) [8]. shares] 4 0 0	
Ju	pril 1877 dy 1877 ev. 1876 u. 1874	10000 Dubby Syke, I, Durham* 0 10 0 3 23	3
Jai	n. 1876 g. 1877	6144 East Caradon, c, St. Cleer!	36
Au		1722 East Wh. Lovell, t, Helston	
Ia Io	y 1875 r. 1877 v. 1875	8000 Fronvellan, /, Mont. * [4000 sh. ty. p 1.] 1 0 0 11 1 1	-
in fa	. 1876	14000 Glenroy, * s.l, Isle of Man	11/6
m.	t. 1877 1877	100000 Gold, g. Merionethabire 1 0 0 20000 Goreu, sl. Carmarthen 1 0 0 20000 Gt. E. Foxdale, i, I of Man (1/2 ab) 1 0 0 1½ 1½ 1	
ec ay	1875 1876 1877 1877	12000 Great Holway, * /, Flintshire	%
in.	1877	10000 Harehope Gill, * 1, Durham (£1 sh.), 0 50	'
ig.	1876	2500 Kitlalos d Times 28 0 0	
c.	1875 1874 18.7	15000 Kingston Con., s-i. Stoke Climsland. 1 0 0 1	
g. ly t.	1875 1 1877 1 1872 1	2000 Ladywell,* 1, Salop 2 10 0	16
••	3	0000 Lianrhaiadr, I. Montgomery* 2 0 0 — 5000 Llanrwat.* I. Carnarvon 2 0 0 4 14 4 14 4 14 14 14 14 14 14 14 14 14	
y	1877 1876	3500 Mellanear Cont., Wendron 1 17 4 2	- 1
	1874 11	Ditto	
9	1872	020 New Bronfloyd, * / Cardigan (%) ab \ 0 0	
	1877 20 1879 18	000 New East Foxdale, s-l, Isle of Man. 0 15 0 114. 114 114 000 New Fowey Consols, t, St. Blazey* 3 0 0 2	
.	1877 86 1878 4	200 New Routh Merilyn, I. Flints 3 9 0 1 1/2 2 10 0 1 1/2 1 10 New Wheal Emma. c. Buckfastleigh 2 0 0 1 1/2 1 10 North Cornwall, I. Cornwall	
1	876 20 872 200 873 80	00 North Levant to St. June 2 0 0 34 56 M	
1	878 20 877 25	00 Old Tincroft a d Talanta	
1	973 900	O P. Carnaryon 2 0 0	
10	376 3000	00 Pateley Bridge, I. Yorkshire	
18	77 64 177 1000 177 200	O Pridean West, Carnaryonshire 9 00.	1
18 18	74 600	O Religion Consultation 2 0 0 21/ 11/ 01/	1
18 18 18	76 77 500	0 Silvercross, * c, t, Marazion 100 1 1 1 1	
2//			1 1
P		South Roman Gravels, i	21
Po	4500 6000 10000	South Wheal Crofty, c, Illogan 38 19 10. 9 8 9 8 9 8 10 10 9 8 9 8 9 8 10 10 9 8 9 8 9 8 10 10 9 8 9 8 9 8 10 10 9 8 9 8 9 8 10 10 10 10 10 10 10 10 10 10 10 10 10	8tk 10
pd pd pd 87	16000 16000	Success, &c., ', Derb. (12,000). ealled) 1 0 0 11/2 11/2 11/2	\$1000
pd 878 pd	. 5400 14000 10000		S·k.
pd pd pd.	12000 12000 5000 547	Tolgus Consols, *c, Redruth	25 28 10
76 d.		Tyn-y-Fron */ Cartintshire 10 00	Stk. 10 Stk. Stk.
d. 78	1000	Van Consols, I. Liantidose* 2 10 0 . 36 36 36	25 25 8
d. d. 7! d.	6000 5500	West Assheton, I, Carnaryon 1 9 0 1 34 1 West Basset, c. Illogant 5 13 4 2s 1s. 2s.	16 16 15
1.	3000 1 5000 1	W Craven Moor, I, Pateley Bridge* 10 0 0 12 10 12 10 12	5 1
1.	\$000 Y \$000 Y \$000 Y	West Milwr Menheniot 0 36. 1	tk. I tk. I tk. I
	12000 V	Vest Hoskear ! s-i, bl. c. Camborne. 3 0 0 2 11/2	tk. I tk. 7% I
5	3000 V	Vest Wheel Program, c, t, Gwennap 1 00 2 134 2	k. L.
	6000 W 6000 W 512 W 6000 W	Yest Wheal Seton, c, Cambornel 47 0 0 17% 18 20 8 (heal Basset, c, Illogan 12 0 0 3 3 34 34 heal Gastes, t, St. Agree 21 2 6 8 68	25 N tk. B 10 P 50 P k. Pe
	2635 W 6000 W 5179 W	heal Crebor, c, Tavistock	k. Be
1	12000 W 3000 W 12000 W	h. Mary Hutchings, *c, Plympton 114 0. 11/2 11/4 11/4 11/4 11/4 11/4 11/4 11/4	k. I 10 8i 20 8t 12 Te
1.		hite Cliff, * l, Llaurwst	12 Te 5 Di 10 Th k. U
1	b, blend	e; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate:	k. Uı

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate;
s-t, silver-lead; t, tin; s, zinc.

" Limited Liability Companies; † quoted on the Stock Exchange; have paid dividends,

IRON AND COAL COM				
	IRON	AND	CO.	CO L

	Shares. Company.
08. pr	SARRY COMPANY, 2100 Abbot, John, and Co. [L.] 2 Albion Steel and Wire Co. [L.] 3 Bagnall, John, and Sons [L.] 3 Bagnall, John, and Sons [L.] 3 Bagnall, John, and Sons [L.] 4 Bagnall, John, and Sons [L.] 5 Carriers [L.] 5 Carriers [L.] 5 Chariton Income Colliery 5 Chariton Iron Co. [L.] 5 Consett Iron [L.] 5 Davillation Iron Co. [L.] 6 Universal Mining Ass. [L.] (El elument) with the proposition of the proposi
6 136	2100 Abbot, John, and Co. Co.
	5 Alltami Collins Wire Co. IT.
336	100 Ashbury Co. [L.] 1
28	10 Bagnall, John, and Sone Co.
X	50 Bilhao Ison Co. [L.]
	10 Bilson & Crump Month I
34	50 Blace Cwmbach Coal Co. T. 11
- 1	100 Bolckow Vannand Steel Co. IT.
	50 Bowling Iron Co. [L.]
M .	50 Brown Ironworks [L.]
36	.00 Brown, John and Dixon [L.]
	Cakemore Colliery Co. [L.]
1	30 Cannock and Co. [L.]
,	10 Cardiff & Swappen Coal [L]
2	Cardigan Steel and Wise Co. [L.].
6	S Chapel H. Swedish Iron and Steal Ch.
	60 Chariton Iron Co.
i	Chatterley Iron Co. [f.]
	1 Clea Hill Con Co. [L.]
	10 Consett Iron Co. [L.]
56	1 Consett Spanish Ore (T.)
	20 Davide, William, and Co. [L.]
	50 Dayy Brothers Co. [L.]
	Diamond Fuel Co. [L.]
	100 For Vale Co. [L.]
	10 General Miss, and Co. [L.]
	2) Great Western Coal Co. (£1 returned) 9
	15 Hopkigwillim Colliery Co. (L.)
	50 Knowles, Gilkes, and Co. [L.]
	10 Llay Hall Coal Iron & Bons [L.] H
	Littledean Woodside Coll. Co. [L.] 10
	10 Lydney and Die, & Tondu Co. [L.]
	10 Marbella Iron Ore [L.].
	6 Mersey Steel and Iron Co. [L.]
	5 Mold And Iron Co. [L.]
	10 Monkland Iron and Co. [L.]
1 .	Mwyndy Iron Ore [L.] 10
1 '	3 Northy die and Blaina (8 p. c. pref.) 100
	New Sharlston Collierin [L. & Red.] 2 6
1	10 Newport Abercaru Coal Co. (f.) Pref 20 0
	10 Northmeth. Coal, Iron & Wagon [L.] 10 0
	1 Norton Green Coal Co.
1 10	B Palmer's Shipbuilding and Isan I 0
1 2	Parkgate Iron Co. [L.]
2	00 Patent Sut and Boit Co. [L.] 45 0 00 Patent Shaft and Axletree [L.] 11 0 10 Pelsall Coal and Iron 1 1 10 0 0 Phopnix Resserved L. 1 15 0
2	O Pelsall Coal and Irou 10 0
8	Phoenix Bessemer Co. [6.]
1	O Rhymney Iron Co. [6.]
100	
100	Ditto No. 100 pt
100	Sheepbridge Iron and Control 100 0 0
80	Silkstone & Dodworth Cl. & Iron L.
20 80	Somorrostro Inc. [L.]
25	Somorrostro Iron Co. [L.] 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
100	South Wales Coal Co. [L.] 31 00.
20	South Clareland Titto New 10 00
10	Swansea Valley Steam Coll. Co. (T.) 90 00.
100	Thames Iron Company 100 00
50 28	Tredegar Iron and Coal Co. [L.] 100 0 0. Ditto B. shares 20 0 0.
30	Ulverston Mining Co. [L.]
10	United Bituminous Collieries II 1
100	Vickers, Sons, & Co. CT.
80	Vancouver Coal [L.]
25	W. Cumberland I. and Steel [L.] 30 00.
10	West Mostyn Coal [L.] (12 p.c.pref.) 5 00.
10	Whitehaven Iron Co. [L.] 8 00
100	Wigan and Whiston Coal Co. II.
100	Weish Ironworks Co. [L.]
	WAGON COMPANIES.
10 1	Nin-t

THEODIT COMPA	an	95.
10 Birmingham Wagon Co. [L.]	10	0.0.
		0 0
10 Ditto, pref., 6 per cent.	10	0 0.
		00.
	10	0 0
	8	0 0
	5	0 0
5 Ditto, pref., 6 per cent.	5	00
10 Midland	10	
	20	0 0
5 Rail. Car. [L.] (Oldbury)	8	00.
		00.
	15	0 0
10 Yorkshire Wagon Co. [L.]	10	0 0
TELEGRAPH COMP.	ANI	R8.
St." Anglo, American	44	

	TELEGRAPH COM	AN	HE
	10 Brazilian Subra	100	0 0
	10 Brazilian Submarine	10	
	20 Direct United States Cab'e	10	
		30	0 0.
	10 East. Exten., Australia and China	10	00.
	10 Great Northern	10	0 0.
	25 Indo-European	10	00.
	10 Mediterranean Extension	25	0 0.,
	Routers Extension	10	00.
	8 Reuters		0 0
	Stk. Submarine		0 0.
		10	00.
ì	ov western and Brazilian	20	0 0
ı	\$1000 Western Union, 7 per cent. Mort. Bond	. 810	000
l			

4	MISCELLANEOUS,
6	S.k. Atlantic and Great Western Leased
	Lines, Rental Trust 100 6
(20 Augural, Mort. Land and Pinance II. 1 & 6
	26 Australian Agricultural 21 16
8	to avonside Engine L. 7 0
,	
6	10 Brighton Aquarium [L]
	oth, Cent. of New Jersey Con. Mort 100 0
•	25 City of London Real Property [L.] 12 0 25 Copper Miners of Eng. (7 p. c. p. cf.) 26 0
í	5 Diamond Rock Boring 4 19
	15 English and Foreign Credit # 0
	16 Fore Street Warehouse [L.] 14 0
	15 Foster, Porter, and Co. [L.] 10 10
	5 Gen. Phos. & Chem. Works Co. [L.] 5 9
	1 Glaisdale Whinstone Quarry 1 01
	5 Kit Hill Tunnel [L] 1 00
	17 Hudson's Bay Company
	Stk. Iilinois Central, \$100 shares 100 0 0
	Stk. Illinois & St. Louis Bridge, 1st Mort. 100 00
	Stk. Ditto, 2nd Mort., 7 per cent 100 00
	Stk. Illinois Cent. Sinking Fund, 5 p. cent. 100 0 0.
	Stk. Ditto, 6 per cent 100 0 0.
	75 Imperial Credit [L.] 7 10 0.
	- Ditto, Surplus Certificate
	10 Milner's Safe [L.]
- 1	Stk. N. Cent. Rail. Con. Mort. 6 per cent. 10 00.
. 1	10 Pawson and Co. [L] # 0 0.
	50 Peninsular and Oriental Steam 50 00
-1	8tk. Pennsyl. Gen. Mort. 6 p. cent., 1910, 100 00.
- 1	Stk. Ditto, Con. Sink. Fund, 6 p. ct., 1905 100 0 0.
1	deal Scottisti Zitast. Lilvestiliche Company.
1	10 Silber Light (ord. sh.) 10 0 0
1	20 Suez Canal shares
	12 Telegraph Construe & Mainte L. 1. 19 00.
1	5 Ditto, Second Ronne Three per Cents 8 00.
1	10 Thereis Suinbur and Conner Co. 10 0 00
1	8tk. Union Pacific Land Grant, 1st Mort. 100 00
1	Stk. Union Pacific Railway, 1st Mort 100 00
1	

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